## XMD-01/-02

#### **XMD** Accessories

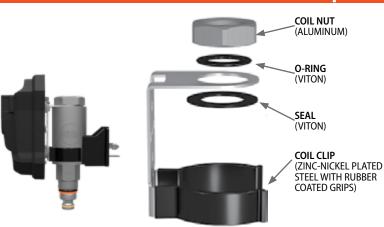
Built to stand up to extreme environmental conditions in mobile and industrial applications, Sun's XMD is a high-powered, electronic control device for electrically operated hydraulic actuators.

The electrical connection is made via a standard 12-pin Deutsch connector. The open architecture of the XMD allows many compatible connections and coil types.

See the accessories chart below.



### **Coil Clips / Brackets**

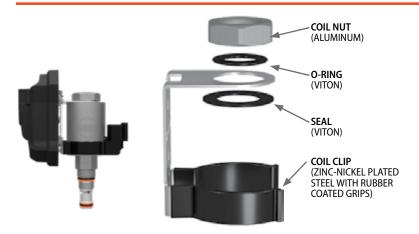


#### XMD Series, Low-Power Coil Clip Model 991740002

This coil clip kit is designed to attach Sun's XMD Series Driver to the FLeX 740 Series coils.

Part	Description	Quantity
375-050	Coil Nut	1
500-101-016	O-Ring	1
500-900	Seal	1
753-074	Coil Clip	1

For installation instructions, download our guide.



#### XMD Series, High-Power Coil Clip Model 991740001

This coil clip kit is designed to attach Sun's XMD Series Driver to the FLeX 740 Series coils.

Part	Description	Quantity
375-050	Coil Nut	1
500-101-016	O-Ring	1
500-900	Seal	1
753-073	Coil Clip	1

For installation instructions, download our guide.



#### XMD Series, 770 Series Coil Clip Model 991770001

This coil clip is designed to attach Sun's XMD Series Driver to the 770 Series coils with existing 770 parts.

For installation instructions, download our guide.

#### XMD Series

**Coil Clips with Cable Harnesses** 

991720\*\*\*

#### **Manifold Mount with Cable Harnesses**





XMD-01 assembly shown mounted on a manifold and driving a single FLeX Series coil.

XMD-02 assembly shown mounted on a manifold and driving two 770 Series coils.

Connector Kits			
Connector Kit	Description	Model Code	
in the same of the	12-pin Deutsch connector kit	991722	
The state of the s	2-pin Deutsch connector kit (gray)	991723001	
	2-pin Deutsch connector kit (black)	991723002	

All connector kits require assembly using a crimping tool.

# hydraulics<sup>®</sup>

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770 Series Coil Clip shown with 12-pin Deutsch prototype cable and 2-pin Deutsch lead.

991770001

FLeX Series Low-Power Coil Clip shown with 12-pin Deutsch prototype cable and ISO/DIN 43650, Form A lead.

# 991721\*\*\*\* 991740002 eX Series Low-Power Coil Clip

Cable Harnesses			
Connector	Description	Model Code	
0	12-pin Deutsch prototype cable, single-output	991711300 (3 m) 991711600 (6 m)	
0	12-pin Deutsch prototype cable, dual-output	991712300 (3 m) 991712600 (6 m)	
6	12-pin Deutsch prototype cable, single output with 2-pin Deutsch lead	991720300 (3 m) 991720600 (6 m)	
6	12-pin Deutsch prototype cable, single output with ISO/DIN 43650, Form A lead	991721300 (3 m) 991721600 (6 m)	
6	2-pin Deutsch prototype cable*	991713030 (30 cm) 991713060 (60 cm)	

\*To be combined with 991711\*\*\* or 991712\*\*\* harnesses

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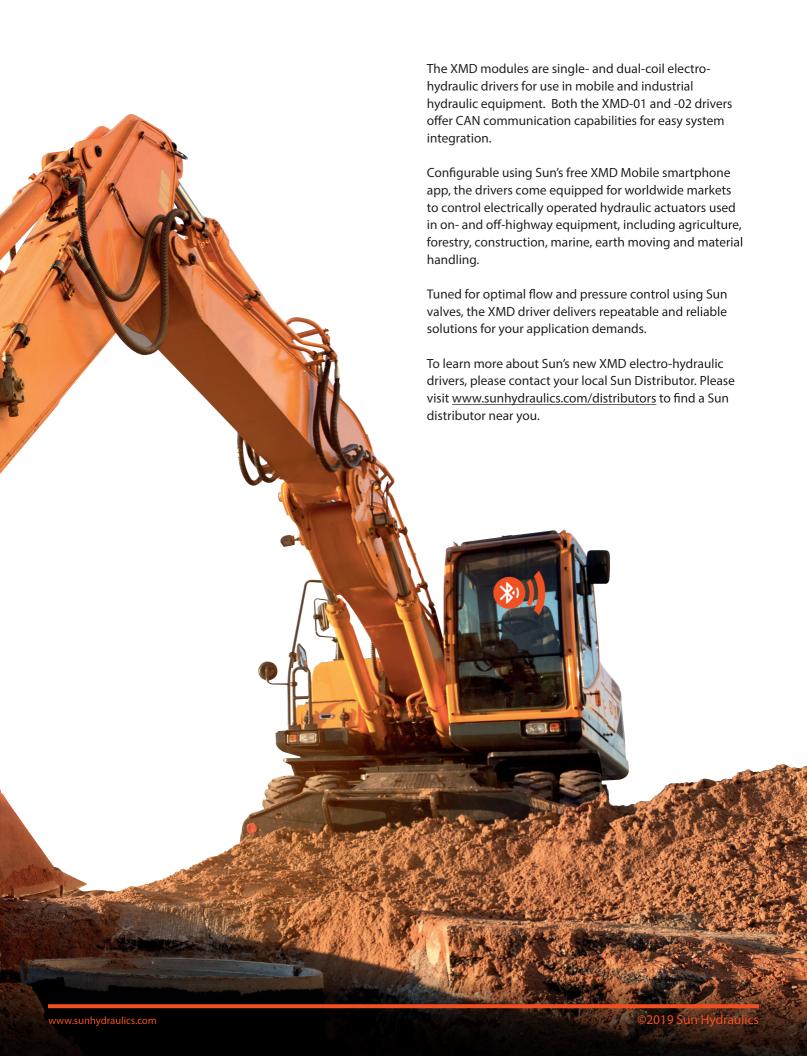
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May 2018

## XMD-01/-02 ELECTRO-HYDRAULIC DRIVERS







## **METHOD OF** CONSTRUCTION

Low-profile 12-pin Deutsch connector. Compatible with any DT06-12SA-XXX connector

Glass-filled enclosure is designed to meet UL94

LEDs for quick visual diagnostics - Power and Comm/Fault



High-strength bracket mount for low-profile design

Zinc nickel-plated mounting bracket (1,000-hour salt fog)

Flexible potting compound for PCB shock and vibration protection (49g peak)

Vent membrane for 0 pressure differential. Allows vapors to pass but not liquids





Zinc nickel-plated mounting bracket (1,000-hour salt fog)

Coil clips designed for 740 Series high- and low-power coils and 770 Series coils

> Fits any FLeX Series solenoid valves with coils



Attaches behind remote mount bracket. no additional hardware required

Viton dipped for reduced wear to coil plating

12-pin I/O flexibility



The XMD open architecture allows for any type of termination to be used with pumps, CETOP valves, solenoid switching and proportional valves along with many others.

www.sunhydraulics.com METHOD OF CONSTRUCTION

## **HOWIT** WORKS







# XMD MOBILE APP

The XMD Mobile app was developed with the user in mind. The features offer simple yet advanced capabilities for technicians, engineers and developers.



DIAGNOSTIC MODE

Access faults

Password protected settings

Real time I/O + CAN values

Tamper-proof intelligence



**QUICK SETUP** 

Simple configurations

Easy setup

Typical applications profiles



**HOME SCREEN** 





iPad version offers expanded information display



Complete output configurability

Simple and flexible configuration means no changes to master controller

source code



Simple configurations

Maximum flexibility

**CAN SETUP** 

www.sunhydraulics.com MOBILE APP

## **GLOBAL REACH** LOCAL SUPPORT



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#### **CONFIGURABLE**

Simple, safe & fast setup via free Bluetooth app within a 30-foot-radius

#### **RUGGED**

Designed for extreme environmental conditions for the mobile hydraulic industry

#### **UNIVERSAL**

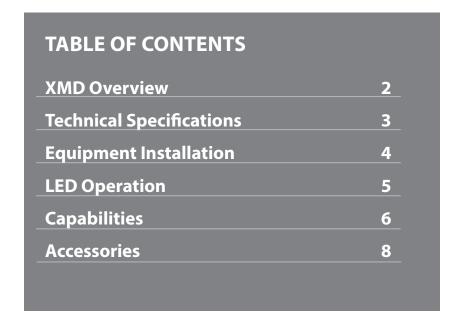
Use with any electro-proportional or solenoid-operated on/off valves



## XMD-01/-02

BLUETOOTH-CONFIGURABLE ELECTRO-HYDRAULIC DRIVERS, CAN CAPABLE





sunhydraulics.com/models/electronics/i-o-modules/xmd-series

**OVERVIEW XMD Series** 

## **SUN XMD Series**

## Exceptional Sun performance at a competitive price

#### XMD Intended Use

The XMD module is an electro-hydraulic driver for use with mobile and industrial hydraulic equipment.

Configurable using Sun's FREE XMD Mobile app readily available worldwide for control of electrically operated hydraulic actuators used in many applications for on- and off-highway equipment including but not limited to agriculture, forestry, construction, marine, earth moving, and material handling.

Tuned for optimal flow and pressure control using Sun valves, the XMD driver delivers repeatable and reliable solutions for your application demands.



 $\triangle$  Please read and observe any precautions wherever this symbol is used in this document.

#### XMD Features

#### **SAE J1939 CAN Communication**

Configure CAN sensors and joysticks as inputs or configure as a remote node to be used with any CAN-capable programmable controller or display. The XMD is also designed to transmit the analog universal inputs as CAN messages for enhanced intelligence and diagnostic information.

#### **Quick Setup Profiles**

Select between single- and dual-coil predefined profiles for typical pressure and flow configurations for fast, reliable solutions.

#### **Diagnostic Mode**

Allows technicians worldwide to access alarm and operational conditions without editing passwordprotected engineered settings.

#### **Input/Output Function Curves**

Create a custom output curve for finely tuned joystick control or custom flow/pressure curves with the use of the universal inputs and CANreceived messages.



CAN-Capable Display







Input / Output Curves

#### **XMD Series**

## **⚠ TECHNICAL SPECIFICATIONS**

#### **Operational Specifications**

Supply Voltage	9 - 32 Vdc
Ch. C	XMD-01: 3 A max
Supply Current	XMD-02: 6 A max
Weight	0.3 lbs (0.136 kg)
Dimensions (L x W x H)	3.38 in x 2.30 in x 1.40 in (85.87 x 58.49 x 35.62 mm)
Enclosure	PBT, 30% glass-filled
IP Rating	IP69K
Certification	CE, E-Mark, E11 10R-05100024 2014/53/EU (Radio Equipment Directive), 2014/35/EU (Low Voltage Directive)

#### Communication

CAN	2.0B (Maximum voltage + 32 Vdc)
Baud Rates	125 kbit/s, 250 kbit/s, 500 kbit/s, 1 Mbit/s
Default Baud Rates	250 kbit/s
Protocol	SAE J1939

#### Notes:

- 1) No HAZARDOUS LIVE parts are present in the equipment. Terminals are rated to 32 Vdc maximum.
- 2) Recommended supply voltage 12 Vdc or 24 Vdc with negative to earth. 6Vdc protection for engine cranking events.
- 3) Use twisted or twisted shielded-pair cable for CAN per the applicable standard.

#### Inputs

Universal Inquite	XMD-01 (1 universal input)	0 - 5 Vdc, 0 - 10 Vdc, 4-20 mA, digital, frequency (60 Hz-10 kHz), PWM (60 Hz -10 kHz), resistive (0 – 100 kΩ), software configurable	
Universal Inputs	XMD-02 (2 universal inputs)		
Input Range	Current Input Mode: 0 to +20 mA. Maxin Active circuit protection above 22 mA and Digital Input: 0 to +Supply, not to exceed Digital Input: Debounce time 200 ms fix Maximum voltage on any input pin +32	d 32 Vdc (impedance Z = $\sim$ 10 k $\Omega$ ). ed in device firmware.	

#### **Outputs**

PWM Outputs	XMD-01 (1 PWM output)	0-3.0 Amps Peak -40°C + 75°C continuous per channel 0-2.7 Amps Peak +75°C + 85°C continuous per channel
	XMD-02 (2 PWM outputs)	0-2.7 Amps reak +73 C + 63 C continuous per channel
Current Regulation	± 1mA above 35 mA	
PWM Frequency	33 Hz - 5 kHz	
Dither Frequency	33 Hz - 500 Hz	
Dither Amplitude	0 - 25% of PWM Period	
Diagnostics	Open/short-circuit detection	
Flyback Protection	Integrated diode protection	
Ramp Time	0 - 65 seconds, 1-mS increments	
Reference Output	5 Vdc, ±0.1 Vdc (250 mA max.)	

#### **Environmental**

Operating Temperature	-40°C to +85°C (-40°F to +185°F)	Vibration	33.3 Hz 6.8g Peak (Spec: S-367 Section 11.0)
Storage Temperature	-60°C to +120°C (-76°F to +248°F)	Shock	49g Peak (Spec: S-367 Section 12.0)
EMC/EMI	EN 55024, EN 55032, EN 13309, EN/ISO 14982, ISO 13766, ISO 16750-2, J1113-4/11/12/13/26, ISO 1142-2/10, CISPR 25, FCC 15B, ICES-003, UNECE Reg 10.5, EN 61326-1:2013, EN 301 489-1 V2.2.0, EN 301 489-17, EN 12895		

#### **Patent**

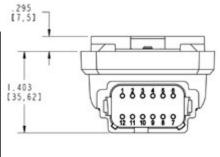
Patent Number	Patent Pending

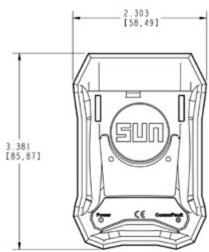
#### **Equipment Installation**

The XMD drivers should be installed and operated by a competent electrician, technician or engineer. Improper installation and use of these products can result in significant threat to both individuals and equipment. In the event of an equipment breakdown, do not attempt to repair the driver as there are no user-serviceable parts inside the product. Evidence of tampering will invalidate the warranty.

#### **Wiring Pin Out**

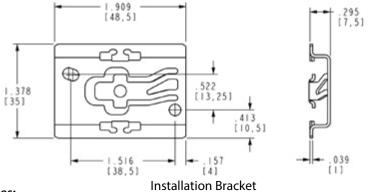
Pin	XMD-01 /-02 Description
1	CAN_LO
2	CAN_HI
3	GND (Inputs, Outputs & 5Vref)
4	XMD-01 No Connection XMD-02 PWM Output, Coil B
5	GND (Inputs, Outputs & 5 Vref)
6	PWM Output, Coil A
7	Supply GND
8	Supply PWR
9	Enable
10	+5 Vref (250 mA max)
11	Universal Input 1
12	XMD-01 No Connection XMD-02 Universal Input 2







A 10A ATC or ATO fuse is required to be installed ahead of the equipment.



#### Notes:

- 1) Use size 16 contact sockets for wire sizes: 16, 18, and 20 AWG.
- 2) Use crimp tool: HDT-48-00
- 3) Compatible with any DT06-12SA-XXX mating connector
- 4) Preferred mating connectors:
  - DT06-12SA
  - DT06-12SA-P012
- 5) Use standard Deutsch back shell for IP69K rating, DT12S-BT

#### **Recommended Wiring Practices:**

- 1) For best grounding practices, isolate pin 7, supply ground, from pins 3 and 5, command, +5Vdc reference, and output grounds.
- 2) Use twisted or twisted shielded-pair cable for CAN per the applicable standard.
- 3) Confirm that the CAN network is properly terminated using  $120-\Omega$  resistors.
- 4) Make certain that the harness is designed and constructed to minimize induced interference resulting from EMI coupling between signal wires.
- 5) Keep high-voltage AC cables separate from low-voltage DC signal and supply cables.
- 6) Check ALL wire connections to and from this unit to ensure NO short or open circuits are present.
- 7) Ensure that any unused wires/connections are terminated safely and not shorted together.
- 8) Isolate the amplifier if any battery charging or battery boosting takes place on the installation.
- 9) Follow and abide by all applicable health and safety standards protect yourself and others.
- 10) Never disconnect or connect wires to or from this unit unless it is isolated from the power supply.
- 11) Use best practice wiring standards

#### Mechanical Installation:

The controller should be mounted on a flat surface. Provide sufficient clearance from moving parts.

- 1) Recommend mounting hardware: #8-  $32 \times \frac{1}{2}$  T18-8 stainless screws, suggested torque 22 in-lbf
- 2) Do not mount in a location that will result in ambient temperatures greater than specified operational temperature limits.
- 3) The XMD is compatible with standard 35-mm DIN Rail.



#### Warning: Prior to welding

In order to avoid damage to the product, ensure that all electrical connections are fully disconnected from the XMD driver prior to welding on the machine.

#### **LED Operation**



Power LED Operation			
Mode of Operation Status		Description	
Normal Operating mode, no faults		ON GREEN	
Supply Voltage Below 9VDC		ON Red	
Supply Voltage Above 32VDC		Blink / Red - 1 blink ON/ pause OFF 500 ms	

Comm / Fault LED Operation			
Mode of Operation	Status	Description	
Normal Operating mode, OFF		OFF	
Connected to mobile phone app /Configuration Mode		Blink/Green - 1 blink 125 ms ON/OFF 500 ms	
Receiving CAN messages		Blink / Green – 2 blinks 125 ms ON/ pause OFF 500 ms	
CAN Message Timeout	-	Blink / Red – 2 blinks 125 ms ON/pause OFF 500 ms	
Coil Short, ON RED		ON/Red	
Coil Open		Blink/Red - 3 blinks 125 ms ON/ pause OFF 500 ms	
Command % out of range		Blink/Red - 1 blink ON/ pause OFF 500 ms	



If the equipment is used in a manner not specified by the manufacturer, the protection by the equipment may be impaired.



This unit is intended only for connection to vehicle electrical systems and voltage above the identified ratings should never be connected to the unit.



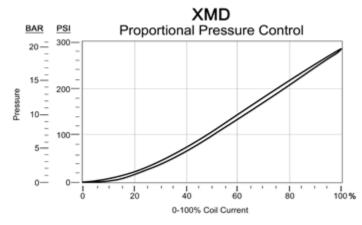
The +5V reference, pin 10, is intended to source stable voltage to external equipment and must not be connected to +Supply Power or Ground, or permanent damage to the XMD will result.

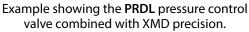


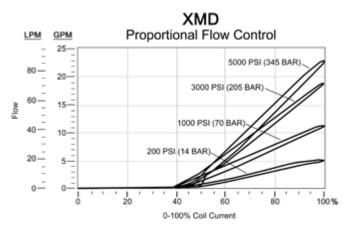
This equipment has not been investigated as a safety rated component and shall not be relied upon as a safety device. Separate emergency stop equipment must be integrated on the machine in accordance with the machinery directive. The operator of the equipment shall always be in sight of the controlled machine and be prepared to use emergency stop equipment if any malfunction occurs.

CAPABILITIES XMD Series

#### **Performance Curves**

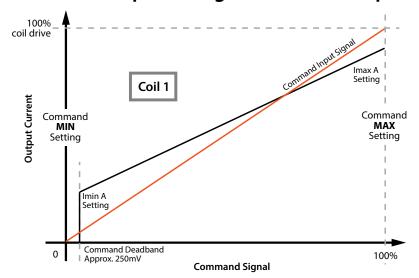






Example showing the **FPBF FLeX** flow control valve combined with XMD precision.

#### XMD-01 Example Configuration: Motor Speed Control



#### **Single-Coil Configuration**

The XMD-01 is designed to control pressure or flow using a single output. This can be translated to control single- direction pumps, motor speed and torque, or single-acting cylinders.

**FPBF** 

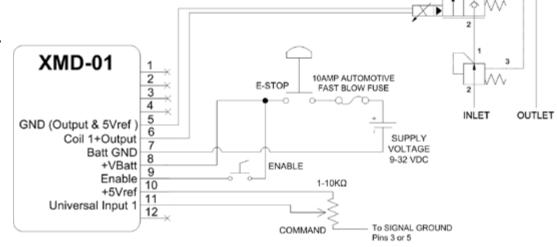
Visit our website to download Sun's "Electro-Hydraulic Terms and Definitions".

NOTE: For best grounding practices, isolate pin 7, supply ground, from pins 3 and 5, command, +5Vdc reference, and output grounds.

#### **∭**Warning:

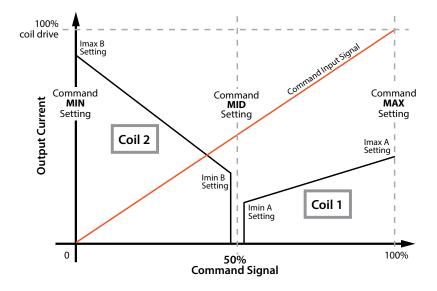
Never use this unit without ensuring ALL work areas are clear of personnel.

\*Hydraulic schematic for reference only.



UNI-DIRECTION MOTOR XMD Series CAPABILITIES

#### XMD-02 Example Configuration: Cylinder Direction & Speed Control



#### **Dual-Coil Configuration**

The XMD-02 is designed to control pressure or flow using two outputs that can be configured for directional or independent use. This can be translated to control bi-directional variable speed pumps, bi-directional motors and bi-directional cylinders.

Visit our website to download Sun's "Electro-Hydraulic Terms and Definitions".

DOUBLE-ACTING CYLINDER

**EMDB** 

#### **XMD Mobile App Configuration**

The XMD Mobile App is designed to offer single- and dualoutput applications for the XMD-02. Both outputs can be configured to operate independently, simultaneously or inverted for directional control as shown here.

NOTE: For best grounding practices, isolate pin 7, supply ground, from pins 3 and 5, command, +5Vdc reference, and output grounds.



#### Warning:

Never use this unit without ensuring ALL work areas are clear of personnel.

\*Hydraulic schematic for reference only.

#### INLET OUTLET XMD-02 10AMP AUTOMOTIVE 2 E-STOP FAST BLOW FUSE GND (Output & 5Vref) Coil 2+Output 2 GND (Output & 5Vref) SUPPLY Coil 1+Output 1 VOLTAGE Batt GND 9-32 VDC ENABLE +VBatt Enable 1-10KO 10 +5Vref Universal Input 1 12 COMMAND To SIGNAL GROUND Pins 3 or 5

To COIL 2

#### **Connections**

The XMD open architecture offers a wide range of connection and coil compatibility. Connections include Deutsch, DIN 43650-A, Amp Junior Timer, twin-lead and metri-pack.



ACCESSORIES XMD Series





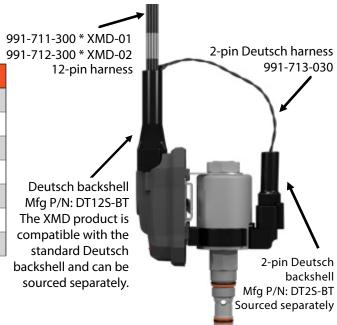
The XMD-01 and XMD-02 ship standard with the remote mount bracket.



#### **Accessories**

Item	Part Number	Description
1	XMD-01	XMD-01 assembly, includes standard mounting clip
2	XMD-02	XMD-02 assembly, includes standard mounting clip
3	991-711-300	12-pin Deutsch prototype harness, 3M, XMD-01
4	991-712-300	12-pin Deutsch prototype harness, 3M, XMD-02
5	991-713-030	2-pin Deutsch prototype harness, 30cm
6	991-740-001	FLeX high power coil clip assembly
7	991-740-002	FLeX low power coil clip assembly

Additional accessory options are available on Sun's website. Please visit www.sunhydraulics.com for more details.



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January 2018



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991728	XMD Series CAN-to-USB hardware interface	1
LOFOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch	2
LOHOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch	3
LOJOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch	4
LOKOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch	5
LKFCZ	Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch	6
LKHCZ	Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch	7
LKJCZ	Pilot-to-open, spring-biased closed, unbalanced poppet logic element with positionswitch	8
LOFCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with positionswitch	9
LOHCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with positionswitch	10
LOJCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with positionswitch	11
LOKCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with positionswitch	12
LOECZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with meteringnotches and position switch	13
LOGCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with meteringnotches and position switch	14
991711300	XMD Series, 12-pin Deutsch prototype cable, single-output	15
991711600	XMD Series, 12-pin Deutsch prototype cable, single-output	16
991712300	XMD Series, 12-pin Deutsch prototype cable, double-output	17
991712600	XMD Series, 12-pin Deutsch prototype cable, double-output - 6M	18
991713030	XMD Series, 2-pin Deutsch prototype cable - 30CM	19
991713060	XMD Series, 2-pin Deutsch prototype cable - 60CM	20
991717	FLeX Series, adapter cable - 2-pin Deutsch to Metri-Pack, Series 150-	21



991718	FLeX Series, adapter cable - 2-pin Deutsch to AMP Junior Timer	22
991719	FLeX Series, adapter cable - 2-pin Deutsch to twin leads	23
991720300	XMD Series, 3M, 12-pin Deutsch prototype cable, single-output with 2-pin Deutsch lead	24
991720600	XMD Series, 6M, 12-pin Deutsch prototype cable, single-output with 2-pin Deutsch lead	25
991721300	XMD Series, 3M, 12-pin Deutsch prototype cable, single-output with ISO/DIN 43650, Form A lead	26
991721600	XMD Series, 6M, 12-pin Deutsch prototype cable single-output with ISO/DIN 43650, Form A lead	27
991722	12-pin Deutsch connector kit	28
991723001	2-pin Deutsch connector kit(gray)	29
991723002	2-pin Deutsch connector kit (black)	30
FTCAZ	2-way, pilot-shifted, dual path, proportional throttle with positionswitch	31
FTDAZ	2-way, pilot-shifted, dual path, proportional throttle with positionswitch	32
FTEAZ	2-way, pilot-shifted, dual path, proportional throttle with positionswitch	33
FTFAZ	2-way, pilot-shifted, dual path, proportional throttle with positionswitch	34
991702	Infrared cable adapter	35
991706003	Deutsch DT06-6S cable assembly	36
991706006	Deutsch DT06-6S cable assembly	37
740211	740 Series, 115 VAC 50/60 Hz, high-power coil with ISO/DIN 43650, Form A connector with TVS Diode	38
740211L	740 Series, 115 VAC 50/60 Hz, low-power coil with ISO/DIN 43650, Form A connector with TVS Diode	39
740212	740 Series, 12 VDC, high-power coil with ISO/DIN 43650, Form A connector without TVS Diode	40
740212D	740 Series, 12 VDC, high-power coil with ISO/DIN 43650, Form A connector with TVS Diode	41
740212L	740 Series, 12 VDC, low-power coil with ISO/DIN 43650, Form A connector without TVS Diode	42



740212LD	740 Series, 12 VDC, low-power coil with ISO/DIN 43650, Form A connector with TVS43 Diode
740214	740 Series, 14 VDC, high-power coil with ISO/DIN 43650, Form A connector without
740214D	740 Series, 14 VDC, high-power coil with ISO/DIN 43650, Form A connector with TVS45 Diode
740214L	740 Series, 14 VDC, low-power coil with ISO/DIN 43650, Form A connector without
740214LD	740 Series, 14 VDC, low-power coil with ISO/DIN 43650, Form A connector with TVS47 Diode
740223	740 Series, 230 VAC 50/60 Hz, high-power coil with ISO/DIN 43650, Form A
740223L	740 Series, 230 VAC 50/60 Hz, low-power coil with ISO/DIN 43650, Form A connector49 with TVS Diode
740224	740 Series, 24 VDC high-power coil with ISO/DIN 43650, Form A connector without50 TVS Diode
740224D	740 Series, 24 VDC high-power coil with ISO/DIN 43650, Form A connector with TVS51 Diode
740224L	740 Series, 24 VDC, low-power coil with ISO/DIN 43650, Form A connector without52 TVS Diode
740224LD	740 Series, 24 VDC, low-power coil with ISO/DIN 43650, Form A connector with TVS53 Diode
740228	740 Series, 28 VDC, high-power coil with ISO/DIN 43650, Form A connector without54 TVS Diode
740228D	740 Series, 28 VDC, high-power coil with ISO/DIN 43650, Form A connector with TVS55 Diode
740228L	740 Series, 28 VDC, low-power coil with ISO/DIN 43650, Form A connector without56 TVS Diode
740228LD	740 Series, 28 VDC, low-power coil with ISO/DIN 43650, Form A connector with TVS57 Diode
740612	740 Series, 12 VDC, high-power coil with kit for AMP Junior Timer connector adapter58 and without TVS Diode
740612D	740 Series, 12 VDC, high-power coil with kit for AMP Junior Timer connector adapter59 and TVS Diode
740612L	740 Series, 12 VDC, low-power coil with kit for AMP Junior Timer connector adapter60 and without TVS Diode
740612LD	740 Series, 12 VDC, low-power coil with kit for AMP Junior Timer connector adapter61 and TVS Diode
740614	740 Series, 14 VDC, high-power coil with kit for AMP Junior Timer connector adapter62 and without TVS Diode
740614D	740 Series, 14 VDC, high-power coil with kit for AMP Junior Timer connector adapter63 and TVS Diode



740614L	740 Series, 14 VDC, low-power coil with kit for AMP Junior Timer connector adapter and without TVS Diode	64
740614LD	740 Series, 14 VDC, low-power coil with kit for AMP Junior Timer connector adapter and TVS Diode	65
740624	740 Series, 24 VDC, high-power coil with kit for AMP Junior Timer connector adapter and without TVS Diode	66
740624D	740 Series, 24 VDC, high-power coil with kit for AMP Junior Timer connector adapter and TVS Diode	67
740624L	740 Series, 24 VDC, low-power coil with kit for AMP Junior Timer connector adapter and without TVS Diode	68
740624LD	740 Series, 24 VDC, low-power coil with kit for AMP Junior Timer connector adapter and TVS Diode	69
740628	740 Series, 28 VDC, high-power coil with kit for AMP Junior Timer connector adapter and without TVS Diode	70
740628D	740 Series, 28 VDC, high-power coil with kit for AMP Junior Timer connector adapter and TVS Diode	71
740628L	740 Series, 28 VDC, low-power coil with kit for AMP Junior Timer connector adapter and without TVS Diode	72
740628LD	740 Series, 28 VDC, low-power coil with kit for AMP Junior Timer connector adapter and TVS Diode	73
740712	740 Series, 12 VDC, high-power coil with kit for twin leads connector adapter and without TVS Diode	74
740712D	740 Series, 12 VDC, high-power coil with kit for twin leads connector adapter and TVS Diode	75
740712L	740 Series, 12 VDC, low-power coil with kit for twin leads connector adapter and without TVS Diode	76
740712LD	740 Series, 12 VDC, low-power coil with kit for twin leads connector adapter and TVS Diode	77
740714	740 Series, 14 VDC, high-power coil with kit for twin leads connector adapter and without TVS Diode	78
740714D	740 Series, 14 VDC, high-power coil with kit for twin leads connector adapter and TVS Diode	79
740714L	740 Series, 14 VDC, low-power coil with kit for twin leads connector adapter and without TVS Diode	80
740714LD	740 Series, 14 VDC, low-power coil with kit for twin leads connector adapter and TVS Diode	81
740724	740 Series, 24 VDC, high-power coil with kit for twin leads connector adapter and without TVS Diode	82
740724D	740 Series, 24 VDC, high-power coil with kit for twin leads connector adapter and TVS Diode	83
740724L	740 Series, 24 VDC, low-power coil with kit for twin leads connector adapter and without TVS Diode	84



740724LD	740 Series, 24 VDC, low-power coil with kit for twin leads connector adapter and TVS Diode	85
740728	740 Series, 28 VDC, high-power coil with kit for twin leads connector adapter and without TVS Diode	86
740728D	740 Series, 28 VDC, high-power coil with kit for twin leads connector adapter and TVS Diode	87
740728L	740 Series, 28 VDC, low-power coil with kit for twin leads connector adapter and without TVS Diode	88
740728LD	740 Series, 28 VDC, low-power coil with kit for twin leads connector adapter and TVS Diode	89
740812	740 Series, 12 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	90
740812D	740 Series, 12 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	91
740812L	740 Series, 12 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	92
740812LD	740 Series, 12 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	93
740814	740 Series, 14 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	94
740814D	740 Series, 14 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	95
740814L	740 Series, 14 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	96
740814LD	740 Series, 14 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	97
740824	740 Series, 24 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	98
740824D	740 Series, 24 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	99
740824L	740 Series, 24 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	100
740824LD	740 Series, 24 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	101
740828	740 Series, 28 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	102
740828D	740 Series, 28 VDC, high-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	103
740828L	740 Series, 28 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and without TVS Diode	104
740828LD	740 Series, 28 VDC, low-power coil with kit for Metri-Pack, Series 150-2M connector adapter and TVS Diode	105



740912	740 Series, 12 VDC, high-power coil with Deutsch DT04-2P connector without TVS Diode	106
740912D	740 Series, 12 VDC, high-power coil with Deutsch DT04-2P connector with TVS Diode	107
740912L	740 Series, 12 VDC, low-power coil with Deutsch DT04-2P connector without TVS Diode	108
740912LD	740 Series, 12 VDC, low-power coil with Deutsch DT04-2P connector with TVS Diode	109
740914	740 Series, 14 VDC, high-power coil with Deutsch DT04-2P connector without TVS Diode	110
740914D	740 Series, 14 VDC, high-power coil with Deutsch DT04-2P connector with TVS Diode	111
740914L	740 Series, 14 VDC, low-power coil with Deutsch DT04-2P connector without TVS Diode	112
740914LD	740 Series, 14 VDC, low-power coil with Deutsch DT04-2P connector with TVS Diode	113
740924	740 Series, 24 VDC, high-power coil with Deutsch DT04-2P connector without TVS Diode	114
740924D	740 Series, 24 VDC, high-power coil with Deutsch DT04-2P connector with TVS Diode	115
740924L	740 Series, 24 VDC, low-power coil with Deutsch DT04-2P connector without TVS Diode	116
740924LD	740 Series, 24 VDC, low-power coil with Deutsch DT04-2P connector with TVS Diode	117
740928	740 Series, 28 VDC, high-power coil with Deutsch DT04-2P connector without TVS Diode	118
740928D	740 Series, 28 VDC, high-power coil with Deutsch DT04-2P connector with TVS Diode	119
740928L	740 Series, 28 VDC, low-power coil with Deutsch DT04-2P connector without TVS Diode	120
740928LD	740 Series, 28 VDC, low-power coil with Deutsch DT04-2P connector with TVS Diode	121
747JM11BD	747 Series, 115 VAC hazardous location coil with 180 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	123
747JM11CD	747 Series, 115 VAC hazardous location coil with 90 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	125
747JM12BD	747 Series, 12 VDC hazardous location coil with 180 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	127
747JM12CD	747 Series, 12 VDC hazardous location coil with 90 Deg M20 x 1.5 connector - ATEX IECEx, CSA	ζ,129
747JM23BD	747 Series, 230 VAC hazardous location coil with 180 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	131



747JM23CD	747 Series, 230 VAC hazardous location coil with 90 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	132
747JM24BD	747 Series, 24 VDC hazardous location coil with 180 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	134
747JM24CD	747 Series, 24 VDC hazardous location coil with 90 Deg M20 x 1.5 connector - ATEX, IECEx, CSA	136
747JN11BD	747 Series, 115 VAC hazardous location coil with 180 Deg 1/2" NPT connector - ATEX, IECEx, CSA	138
747JN11CD	747 Series, 115 VAC hazardous location coil with 90 Deg 1/2" NPT connector - ATEX, IECEx, CSA	140
747JN12BD	747 Series, 12 VDC hazardous location coil with 180 Deg 1/2" NPT connector - ATEX, IECEx, CSA	141
747JN12CD	747 Series, 12 VDC hazardous location coil with 90 Deg 1/2" NPT connector - ATEX, IECEx, CSA	142
747JN23BD	747 Series, 230 VAC hazardous location coil with 180 Deg 1/2" NPT connector - ATEX, IECEx, CSA	144
747JN23CD	747 Series, 230 VAC hazardous location coil with 90 Deg 1/2" NPT connector - ATEX, IECEx, CSA	146
747JN24BD	747 Series, 24 VDC hazardous location coil with 180 Deg 1/2" NPT connector - ATEX, IECEx, CSA	147
747JN24CD	747 Series, 24 VDC hazardous location coil with 90 Deg 1/2" NPT connector - ATEX, IECEx, CSA	149
760211	115 VAC 50/60 Hz coil with ISO/DIN 43650, Form A connector	150
760212	12 VDC coil with ISO/DIN 43650, Form A connector	151
760223	230 VAC 50/60 Hz coil with ISO/DIN 43650, Form A	152
760224	24 VDC coil with ISO/DIN 43650, Form A connector	153
769212	12 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode - 13mm, common cavity	154
769224	24 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode - 13mm, common cavity	155
769912D	12 VDC coil with Deutsch DT04-2P connector with TVS Diode - 13mm, common cavity	156
769924D	24 VDC coil with Deutsch DT04-2P connector with TVS Diode - 13mm, common cavity	157
770211	115 VAC 50/60 Hz coil with ISO/DIN 43650, Form A connector with TVS Diode	158
770212	12 VDC coil with ISO/DIN 43650, Form A connector with TVS Diode	159



770214	14 VDC coil with ISO/DIN 43650, Form A connector with TVS  Diode	160
770214N	14 VDC coil with ISO/DIN 43650, Form A connector without TVS  Diode	161
770223	230 VAC 50/60 Hz coil with ISO/DIN 43650, Form A connector with TVS Diode	162
770224	24 VDC coil with ISO/DIN 43650, Form A connector with TVS Diode	163
770228	28 VDC coil with ISO/DIN 43650, Form A connector with TVS Diode	164
770912	12 VDC coil with Deutsch DT04-2P connector with TVS Diode	165
770912N	12 VDC coil with Deutsch DT04-2P connector without TVS Diode	166
770914	14 VDC coil with Deutsch DT04-2P connector with TVS  Diode	167
770914N	14 VDC coil with Deutsch DT04-2P connector without TVS Diode	168
770924	24 VDC coil with Deutsch DT04-2P connector with TVS Diode	169
770924N	24 VDC coil with Deutsch DT04-2P connector without TVS Diode	170
770928	28 VDC coil with Deutsch DT04-2P connector with TVS Diode	171
777HN24AA	24 VDC explosion proof coil, twin leads, 1/2" NPT conduit connector, ATEX and IECEx certified	173
777HN24AB	24 VDC explosion proof coil, twin leads, 1/2" NPT conduit connector, CSA certified (C and US)	175
778212	778 Series, 12 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode, common cavity	176
778224	778 Series, 24 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode, common cavity	177
778912D	778 Series, 12 VDC coil with Deutsch DT04-2P connector with TVS Diode, common cavity	178
778924D	778 Series, 24 VDC coil with Deutsch DT04-2P connector with TVS Diode, common cavity	179
779212	12 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode - 19mm, common cavity	180
779224	24 VDC coil with ISO/DIN 43650, Form A connector without TVS Diode - 19mm, common cavity	181
779912D	12 VDC coil with Deutsch DT04-2P connector with TVS Diode - 19mm, common cavity	182



779924D	24 VDC coil with Deutsch DT04-2P connector with TVS Diode - 19mm, common cavity	183
780712D	780 Series, 12 VDC coil with twin leads connector and TVS Diode - common cavity	184
780724D	780 Series, 24 VDC coil with twin leads connector and TVS Diode - common cavity	185
780912D	780 Series, 12 VDC coil with Deutsch DT04-2P connector and TVS Diode - common cavity	186
780924D	780 Series, 24 VDC coil with Deutsch DT04-2P connector and TVS Diode - common cavity	187
7902B12V	12 VDC coil with embedded proportional IR amplifier, voltage	188
7902B24A	24 VDC coil with embedded proportional IR amplifier, current	189
7902B24V	24 VDC coil with embedded proportional IR amplifier, voltage command	190
7902C24V	24 VDC coil with embedded proportional IR amplifier, voltage command	191
7902D24V	24 VDC coil with embedded proportional IR amplifier, voltage command	192
7904A12V	12 VDC coil with embedded proportional IR amplifier, voltage command	193
7904A24A	24 VDC coil with embedded proportional IR amplifier, current command	194
7904A24V	24 VDC coil with embedded proportional IR amplifier, voltage command	195
7904E12V	12 VDC coil with IR embedded power saver	196
7904E24V	24 VDC coil with IR embedded power saver	197
990770006	770 Series - Viton, coil seal kit	198
991700	Hand Held Programmer	199
991704	USB infrared cable adapter	200
991740001	XMD Series, high-power coil clip kit	201
991740002	XMD Series, low-power coil clipkit	202
991747	770 Series to 740 Series coil adapter sleevekit	203



991770001	XMD Series, 770 Series coil	204
CXFHZ	Free flow nose to side check valve with position switch	205
CXHHZ	Free flow nose to side check valve with position switch	206
XMD-01	Configurable single-output driver used with proportional and solenoid-operated switching valves	207
XMD-02	Configurable double-output driver used with proportional and solenoid-operated switching valves	208



## Cavity Information

Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series 0 Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series 0C Cartridges 8/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	4-Port (Common)	SC-08-04
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 4-Port (Common)	SC-10-02 SC-10-04
Series 2 Cartridges  1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread B1,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-16A T-17A T-23A T-33A T-53AD T-53A T-63A
Series 4 Cartridges M48 Cartridge Thread	2-Port (Undercut)	T-18A T-18AU

41,3 mm Valve Hex Size 474 - 508 Nm Valve Installation Torque

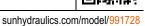
3-P0rt	1-19A
3-Port (Undercut)	T-19AU
4-Port	T-24A
4-Port (Undercut)	T-24AU
4-Port	T-34A
4-Port (Dual path)	T-54AD
6-Port	T-54A
6-Port	T-64A



MODEL 991728









The XMD CAN-to-USB hardware interface cable is a USB 2.0 high-speed device that allows the Controller Area Network (CAN) in the XMD to be transmitted and received using the CANpoint XMD Configuration Software on a computer or laptop.

#### **TECHNICAL DATA**

Cable Length	16 ft
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#### **USED WITH**

XMD-01 XMD-02

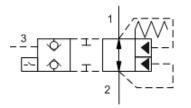
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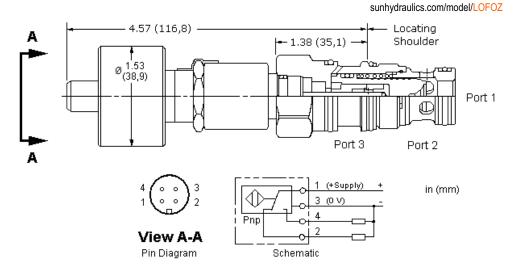




SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.	
Pilot Volume Displacement	.07 in <sup>3</sup>	
Pilot Passage into Valve	.035 in.	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

#### **CONFIGURATION OPTIONS**

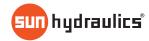
Model Code Example: LOFOZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL
 (N)

 D 50 psi (3,5 bar)
 N Buna-N

 V Viton

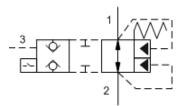
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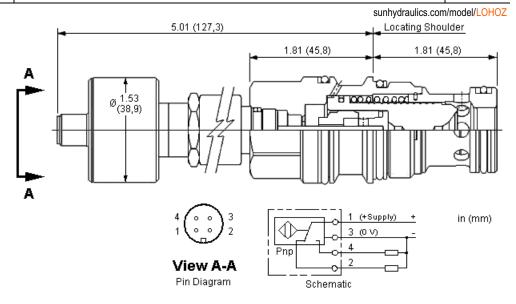




SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.	
Pilot Volume Displacement	.25 in³	
Pilot Passage into Valve	.06 in.	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990117006	

#### **CONFIGURATION OPTIONS**

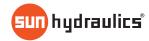
Model Code Example: LOHOZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL

 D 50 psi (3,5 bar)
 N Buna-N

 V Viton

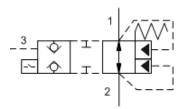
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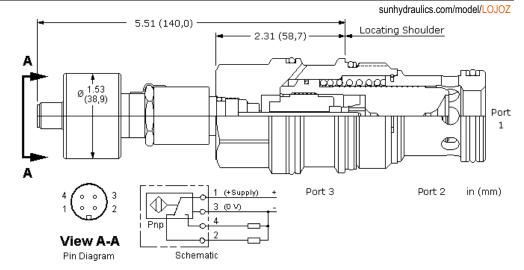




SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.	
Pilot Volume Displacement	.42 in³	
Pilot Passage into Valve	.09 in.	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Seal kit - Cartridge	Buna: 990019007	
Seal kit - Cartridge	Polyurethane: 990019002	
Seal kit - Cartridge	Viton: 990019006	

#### **CONFIGURATION OPTIONS**

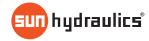
Model Code Example: LOJOZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL

 D 50 psi (3,5 bar)
 N Buna-N

V Viton

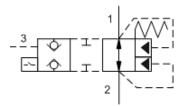
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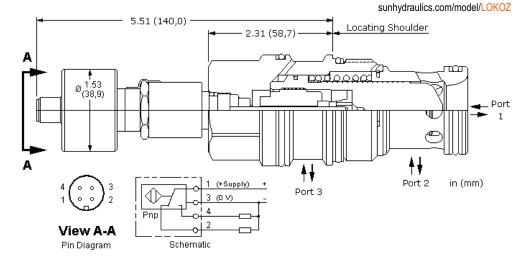




SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

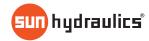
Model Code Example: LOKOZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL
 (N)

 D 50 psi (3,5 bar)
 N Buna-N

**V** Viton

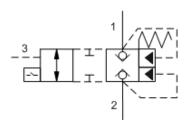
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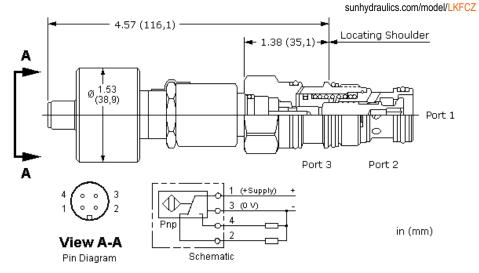




SERIES 2 / CAPACITY: 20 gpm / CAVITY: T-2A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.06 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

**Model Code Example: LKFCZDN** 

 MINIMUM PILOT PRESSURE
 (D)
 SEAL MATERIAL

 D 50 psi (3,5 bar)
 N Buna-N

E EPDMV Viton

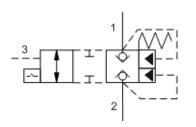
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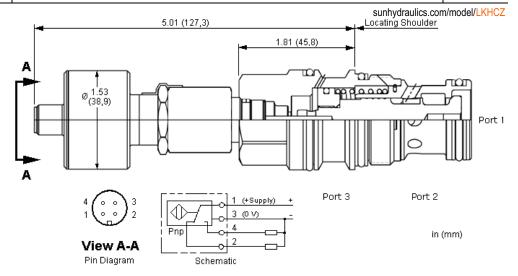




SERIES 3 / CAPACITY: 40 gpm / CAVITY: T-17A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.15 in <sup>3</sup>
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

**Model Code Example: LKHCZDN** 

MINIMUM PILOT PRESSURE

(D) SEAL MATERIAL

(N)

**D** 50 psi (3,5 bar)

N Buna-N
E EPDM
V Viton

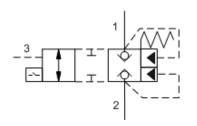
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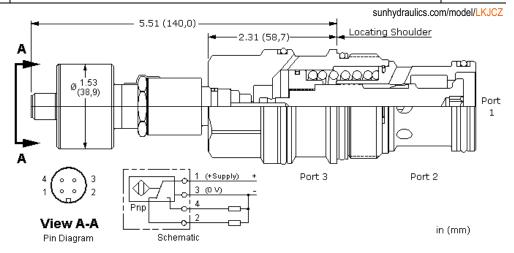




SERIES 4 / CAPACITY: 80 gpm / CAVITY: T-19A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.30 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt) 2 in³/min.@1000 psi	
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: LKJCZDN

MINIMUM PILOT PRESSURE (

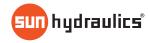
(D) SEAL MATERIAL

(N)

**D** 50 psi (3,5 bar)

N Buna-N V Viton

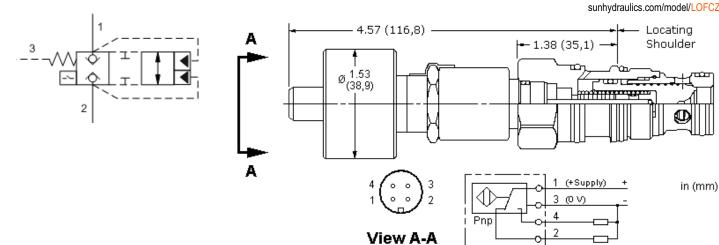
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SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

Pin Diagram

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Schematic

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOFCZDN

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL

(N)

**D** 50 psi (3,5 bar)

N Buna-N V Viton

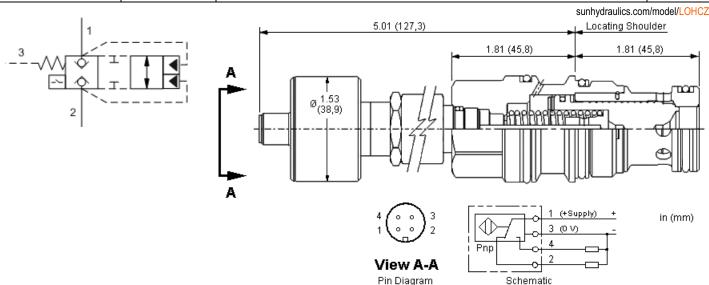
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SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.25 in³
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2 2.25:1	
Transition leakage at 110 SUS (24 cSt) 2 in³/min.@1000 psi	
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOHCZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL

 D 50 psi (3,5 bar)
 N Buna-N

V Viton

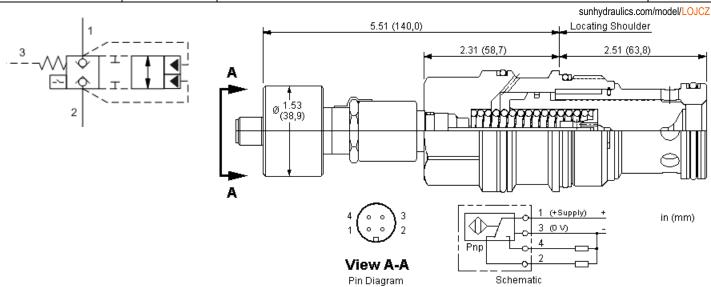
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SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt) 2 in³/min.@1000 psi	
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOJCZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL
 (N)

 D 50 psi (3,5 bar)
 N Buna-N

V Viton

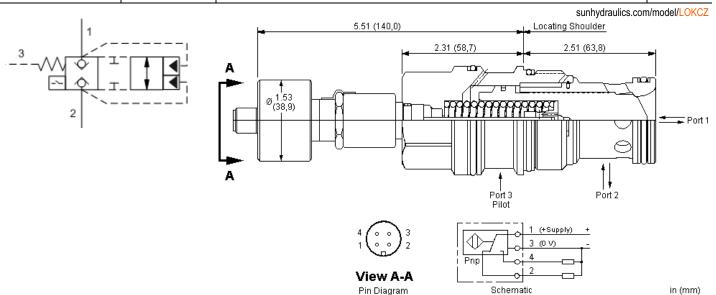
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SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.47 in³
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2 2.25:1	
Transition leakage at 110 SUS (24 cSt) 2 in³/min.@1000 psi	
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOKCZDN

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL
 (N)

 D 50 psi (3,5 bar)
 N Buna-N

 V Viton

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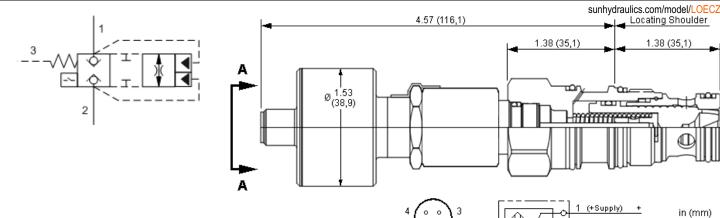




Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch

SERIES 2 / CAPACITY: 12 gpm / CAVITY: T-2A





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

Pin Diagram

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Schematic

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2 2.25:1	
Transition leakage at 110 SUS (24 cSt) 2 in³/min.@1000 psi	
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

**Model Code Example: LOECZDN** 

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL

(N)

**D** 50 psi (3,5 bar)

N Buna-N V Viton

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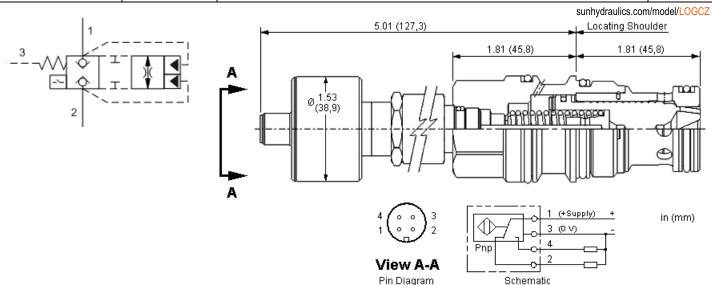




Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch

SERIES 3 / CAPACITY: 40 gpm / CAVITY: T-17A





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.25 in³
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOGCZDN

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL

(N)

**D** 50 psi (3,5 bar)

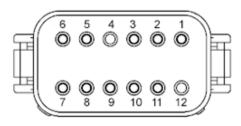
N Buna-NV Viton

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#### WIRING DIAGRAM

Terminal	Function
1	CAN_LO
2	CAN_HI
3	GND (Output & 5Vref)
4	No Connection
5	GND (Output & 5Vref)
6	PWM Output, Coil A

Terminal	Function
7	Batt GND
8	+VBatt
9	Enable
10	+5Vref
11	Universal Input 1
12	No Connection

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver.

## **TECHNICAL DATA**

Connector	Molex 93445-6212, Keying Option A, Grey
-----------	---

## **USED WITH**

991713030 991713060 XMD-01

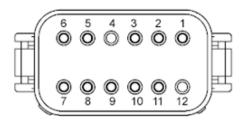
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#### WIRING DIAGRAM

Terminal	Function
1	CAN_LO
2	CAN_HI
3	GND (Output & 5Vref)
4	No Connection
5	GND (Output & 5Vref)
6	PWM Output, Coil A

Terminal	Function	
7	Batt GND	
8	+VBatt	
9	Enable	
10	+5Vref	
11	Universal Input 1	
12	No Connection	

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver.

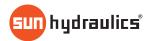
## **TECHNICAL DATA**

Connector	Molex 93445-6212, Keying Option A, Grey
-----------	---

## **USED WITH**

991713030 991713060 XMD-01

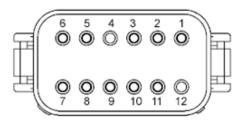
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#### WIRING DIAGRAM

Terminal	Function
1	CAN_LO
2	CAN_HI
3	GND (Output & 5Vref)
4	PWM Output, Coil B
5	GND (Output & 5Vref)
6	PWM Output, Coil A

Terminal	Function
7	Batt GND
8	+VBatt
9	Enable
10	+5Vref
11	Universal Input 1
12	Universal Input 2

This double-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-02 electro-hydraulic driver.

## **TECHNICAL DATA**

Connector	Molex 93445-6212, Keying Option A, Grey
-----------	---

## **USED WITH**

991713030 991713060 XMD-02

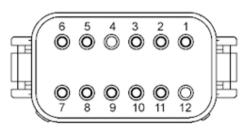
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snhy.com/991712600





## WIRING DIAGRAM

Terminal	Function
1	CAN_LO
2	CAN_HI
3	GND (Output & 5Vref)
4	PWM Output, Coil B
5	GND (Output & 5Vref)
6	PWM Output, Coil A

Terminal	Function	
7	Batt GND	
8	+VBatt	
9	Enable	
10	+5Vref	
11	Universal Input 1	
12	Universal Input 2	

This double-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-02 electro-hydraulic driver.

# **TECHNICAL DATA**

Connector Molex 93445-6212, Keying Option A, Grey
---

# **USED WITH**

991713030 991713060 XMD-02

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Deutsch cable assembly for use with Sun's XMD Series electro-hydraulic drivers.

## **TECHNICAL DATA**

Connector	Molex 93445-1101, Black
-----------	-------------------------

## **USED WITH**

991711300 991711600 991712300 991712600 XMD-01 XMD-02

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snhy.com/991713060





Deutsch cable assembly for use with Sun's XMD Series electro-hydraulic drivers.

# **TECHNICAL DATA**

Connector	Molex 93445-1101, Black	

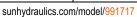
# **USED WITH**

XMD-01 XMD-02

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This adapter cable is used to convert Sun's FLeX Series coil with Deutsch connector to Metri-Pack Series 150-2M.

# **TECHNICAL DATA**

Length	7.50 in.
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This adapter cable is used to convert Sun's FLeX Series coil with Deutsch connector to AMP Junior Timer.

# **TECHNICAL DATA**

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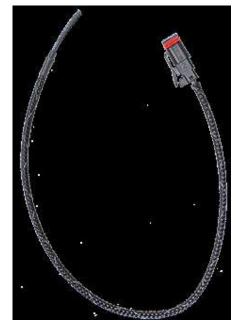












This adapter cable is used to convert Sun's FLeX Series coil with Deutsch connector to twin leads.

## **TECHNICAL DATA**

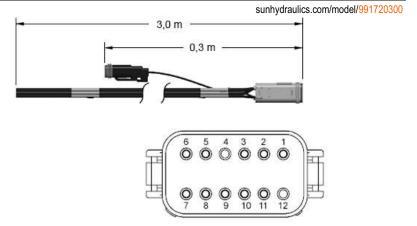
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#### WIRING DIAGRAM

Terminal	Function				
-1	CAN_LO				
2	CAN_HI				
3	GND (Output & 5Vref)				
4	No Connection				
5	GND (Output & 5Vref)				
6	PWM Output, Coil A				

Terminal	Function	
7	Batt GND	
8	+VBatt	
9	Enable	
10	+5Vref	
11	Universal Input 1	
12	No Connection	

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver. It comes equipped with a 2-pin Deutsch lead that connects directly to the FLeX or 770 Series Deutsch coils when combined with the coil clip accessory.

## **TECHNICAL DATA**

Connector	Molex 93445-6212, Keying Option A, Grey	

#### **USED WITH**

740912	740912D	740912L	740912LD	740914	740914D	740914L	740914LD	740924	740924D
740924L	740924LD	740928	740928D	740928L	740928LD	770912	770914	770914N	770924
770924N	770928	991713030	991713060	991740001	991740002	XMD-01	XMD-02		

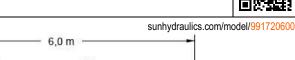
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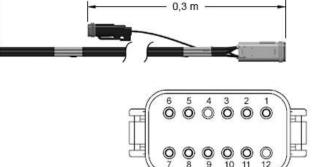
XMD Series, 6M, 12-pin Deutsch prototype cable, single-output with 2-pin Deutsch lead





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#### WIRING DIAGRAM

Terminal	Function				
-1	CAN_LO				
2	CAN_HI				
3	GND (Output & 5Vref)				
4	No Connection				
5	GND (Output & 5Vref)				
6	PWM Output, Coil A				

Terminal	Function	
7	Batt GND	
8	+VBatt	
9	Enable	
10	+5Vref	
11	Universal Input 1	
12	No Connection	

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver. It comes equipped with a 2-pin Deutsch lead that connects directly to the FLeX or 770 Series Deutsch coils when combined with the coil clip accessory.

## **TECHNICAL DATA**

Connector	Molex 93445-6212. Keying Option A. Grev
Connector	Molek 30440-0212, Neyling Option A, Orey

#### **USED WITH**

740912	740912D	740912L	740912LD	740914	740914D	740914L	740914LD	740924	740924D
740924L	740924LD	740928	740928D	740928L	740928LD	770912	770914	770914N	770924
770924N	770928	991713030	991713060	991740001	991740002	XMD-01	XMD-02		

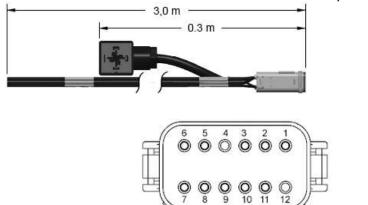
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snhy.com/991721300





#### WIRING DIAGRAM

Terminal	Function				
1	CAN_LO				
2	CAN_HI				
3	GND (Output & 5Vref)				
4	No Connection				
5	GND (Output & 5Vref)				
6	PWM Output, Coil A				

Terminal	Function	
7	Batt GND	
8	+VBatt	
9	Enable	
10	+5Vref	
11	Universal Input 1	
12	No Connection	

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver. It comes equipped with a ISO/DIN 43650, Form A overmolded connector that connects directly to the FLeX or 770 Series VDC ISO/DIN 43650 coils when combined with the coil clip accessory.

## **TECHNICAL DATA**

Connector	Molex 93445-6212, Keying Option A, Grey	

## **USED WITH**

740212	740212D	740212L	740212LD	740214	740214D	740214L	740214LD	740224	740224D
740224L	740224LD	740228	740228D	740228L	740228LD	770212	770214	770224	770228

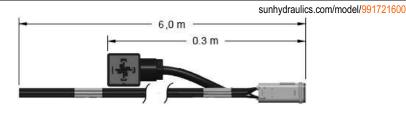
26 of 208 © 2023 Sun Hydraulics

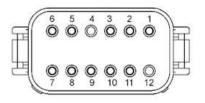
XMD Series, 6M, 12-pin Deutsch prototype cable single-output with ISO/DIN 43650, Form A lead





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#### WIRING DIAGRAM

Terminal	Function				
:1	CAN_LO				
2	CAN_HI				
3	GND (Output & 5Vref)				
4	No Connection	Ī			
5	GND (Output & 5Vref)				
6	PWM Output, Coil A				

Terminal	Function		
7	Batt GND		
8	+VBatt		
9	Enable		
10	+5Vref		
11	Universal Input 1		
12	No Connection		

This single-output, 12 Pin Deutsch cable assembly is for use with Sun's XMD-01 electro-hydraulic driver. It comes equipped with a ISO/DIN 43650, Form A overmolded connector that connects directly to the FLeX or 770 Series VDC ISO/DIN 43650 coils when combined with the coil clip accessory.

## **TECHNICAL DATA**

## **USED WITH**

740212	740212D	740212L	740212LD	740214	740214D	740214L	740214LD	740224	740224D
740224L	740224LD	740228	740228D	740228L	740228LD	770212	770214	770224	770228

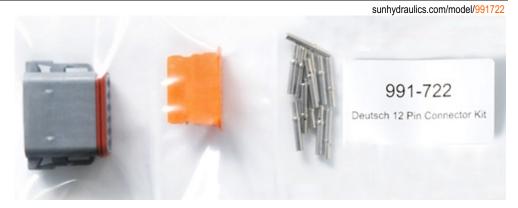
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This Deutsch 12 pin connector kit is for use with Sun's XMD series electro-hydraulic drivers. Assembly is required.

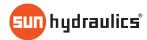
## **TECHNICAL DATA**

Socket	0462-201-16141, HD30 Series, 16 to 18 AWG, terminal size 16, Nickel
Wedge lock	W12S, DT Series, 12 pin
Crimp tool	HDT-48-00
Connector	DT06-12SA, DT Series, 12 pin, contact size 16, gray

## **USED WITH**

XMD-01 XMD-02

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This Deutsch 2 pin connector kit is for use with Sun's 2 pin Deutsch coils. Assembly is required.

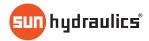
# **TECHNICAL DATA**

Socket	0462-201-16141, HD30 Series, 16 to 18 AWG, terminal size 16, Nickel				
Wedge lock	W2S, DT Series 2 pin				
Crimp tool	HDT-48-00				
Connector	DT06-2S, DT Series, 2 pin, contact size 16, gray				

# **USED WITH**

740912	740912D	740912L	740912LD	740914	740914D	740914L	740914LD	740924	740924D
740924L	740924LD	740928	740928D	740928L	740928LD	770912	770912N	770914	770914N
770924	770924N	770928	780912N	780924N					

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This Deutsch 2 pin connector kit is for use with Sun's 2 pin Deutsch coils. Assembly is required.

## **TECHNICAL DATA**

Socket	0462-201-16141, HD30 Series, 16 to 18 AWG, terminal size 16, Nickel			
Wedge lock	W2S, DT Series 2 pin			
Crimp tool	HDT-48-00			
Connector	DT06-2S, DT Series, 2 pin, contact size 16, black			

## **USED WITH**

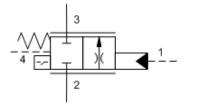
740912	740912D	740912L	740912LD	740914	740914D	740914L	740914LD	740924	740924D
740924L	740924LD	740928	740928D	740928L	740928LD	770912	770912N	770914	770914N
770924	770924N	770928	780912N	780924N					

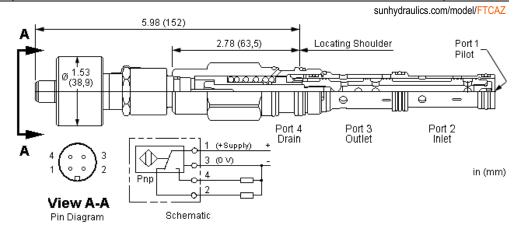
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2-way, pilot-shifted, dual path, proportional throttle with position switch

SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-52AD







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@1000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

**NOTES** 

When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

## **CONFIGURATION OPTIONS**

Model Code Example: FTCAZCN

SPOOL CONFIGURATION

(C) SEAL MATERIAL

(N)

C Normally Closed

N Buna-N
V Viton

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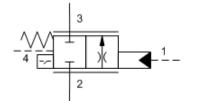


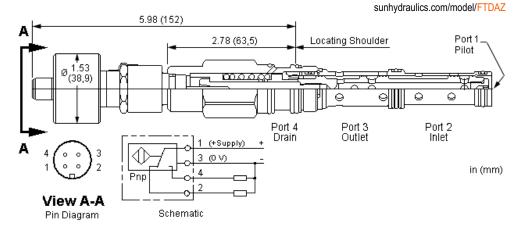


# 2-way, pilot-shifted, dual path, proportional throttle with position switch

SERIES 2 / CAPACITY: 30 gpm / CAVITY: T-52AD







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@1000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

**NOTES** 

When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

## **CONFIGURATION OPTIONS**

**Model Code Example: FTDAZCN** 

**SPOOL CONFIGURATION** 

(C) SEAL MATERIAL

C Normally Closed

N Buna-N V Viton

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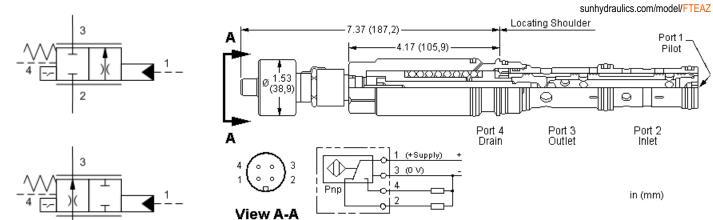
2



# 2-way, pilot-shifted, dual path, proportional throttle with position switch

SERIES 3 / CAPACITY: 25 gpm / CAVITY: T-53AD





This valve is a 2-way, 2-position proportional throttle. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design, Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide position confirmation.

Schematic

#### **TECHNICAL DATA**

Pin Diagram

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@1000 psi
Pilot Volume Displacement	.10 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

**NOTES** 

H Normally Open

When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

#### **CONFIGURATION OPTIONS**

Model Code Example: FTEAZCN

SPOOL CONFIGURATION (C) SEAL MATERIAL (N
C Normally Closed N Buna-N

V Viton

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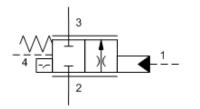


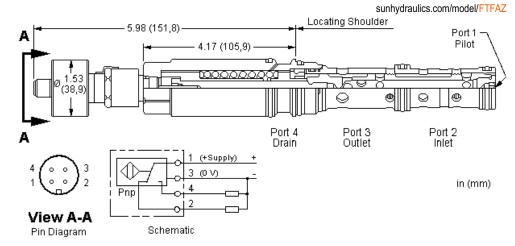


# 2-way, pilot-shifted, dual path, proportional throttle with position switch

SERIES 3 / CAPACITY: 50 gpm / CAVITY: T-53AD







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@1000 psi
Pilot Volume Displacement	.10 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

**NOTES** 

When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

#### **CONFIGURATION OPTIONS**

Model Code Example: FTFAZCN

SPOOL CONFIGURATION (C) SEAL MATERIAL (N

C Normally Closed N Buna-N

V Viton

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snhy.com/991702





Sun's Infrared Cable Adapter provides a convenient interface between Sun's 790 Series Embedded Digital Proportional Valve Amplifier and the Hand Held Programmer or a Windows Based PC. Included with the Cable Adaptor is a USB memory key containing Sun's Amplifier Set Up Software.

## **TECHNICAL DATA**

Supply Voltage	HHP or PC port powered
Operating Temperature Range	-4 - 140 °F
Cable Length	6 ft

## **USED WITH**

7902B12A	7902B12V	7902B24A	7902B24V	7902C12V	7902C24V	7902D12A	7902D24A	7902D24V	7902E12V
7902E24V	7902F12V	7902F24V	7904A12A	7904A12V	7904A24A	7904A24V	7904E12V	7904E24V	7904F12V
7904F24\/									

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# Wiring Diagram

Color	Terminal	Function	
Brown	1	+V Supply	1 2 3
Black	2	Command Input	_
Blue	3	Supply Common	
Red	4	+5 V Ref	
Green/Yellow	5	Command Common	6 5 4
White	6	Enable	DT04-6P Connector
Bare		Shield Drain	

Deutsch Cable Assembly for use with Sun's 790 series embedded amplifier equipped with a Deutsch DT06-6S connector.

## **TECHNICAL DATA**

Connector	Deutsch DT06-6S (mates with DT04-6P)
Cable Length	10 ft

## **USED WITH**

7904A12A 7904A12V 7904A24A 7904A24V 7904E12V 7904E24V 7904F12V 7904F24V

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## Wiring Diagram

Color	Terminal	Function	
Brown	1	+V Supply	1 2 3
Black	2	Command Input	• • •
Blue	3	Supply Common	
Red	4	+5 V Ref	
Green/Yellow	5	Command Common	6 5 4
White	6	Enable	DT04-6P Connector
Bare		Shield Drain	

Deutsch Cable Assembly for use with Sun's 790 series embedded amplifier equipped with a Deutsch DT06-6S connector.

## **TECHNICAL DATA**

Connector	Deutsch DT06-6S (mates with DT04-6P)
Cable Length	20 ft

## **USED WITH**

7904A12A 7904A12V 7904A24A 7904A24V 7904E12V 7904E24V 7904F12V 7904F24V

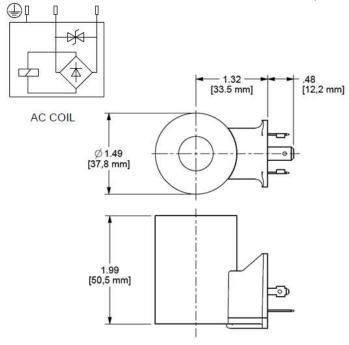
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	115 VAC 50/60 Hz
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FREP	PRDF	PRDG	RVCK	RVCL	RVCM
RVCN									

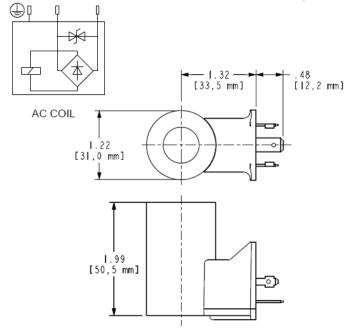
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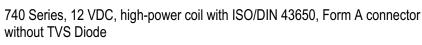
## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	115 VAC 50/60 Hz
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF DBAFS DFBD DFBE DMBD DNBD DTAF DTAFS DTBF

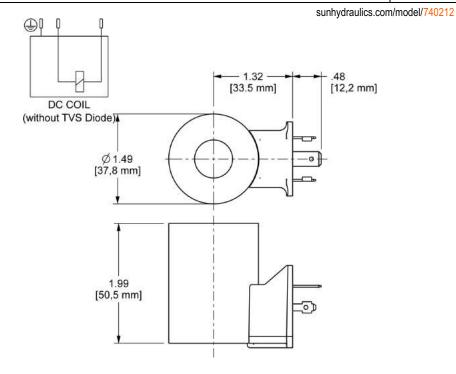
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

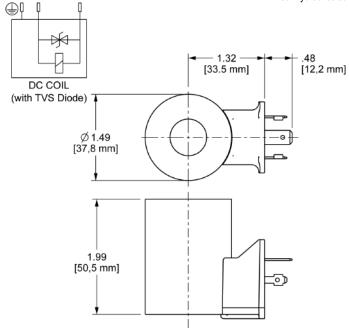
40 of 208 © 2023 Sun Hydraulics



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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

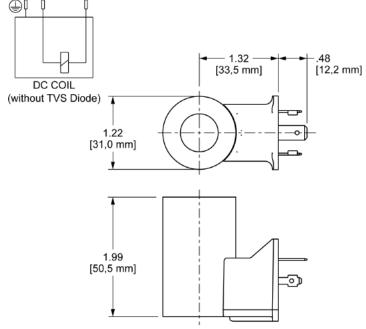
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

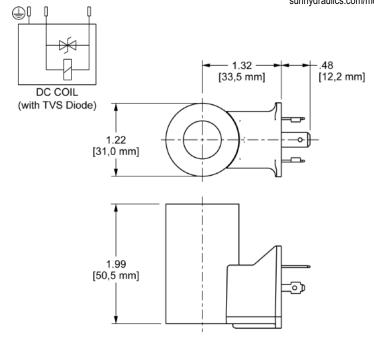
DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991712300	991712600	991713030	991713060	991740002
XMD-01	XMD-02								

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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

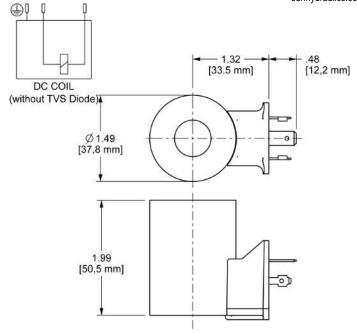
DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

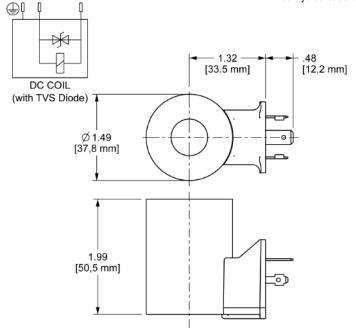
DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

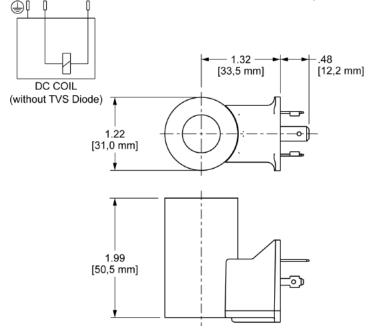
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FDEP	
FPBD	FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	
991713060	991740002	XMD-01	XMD-02							

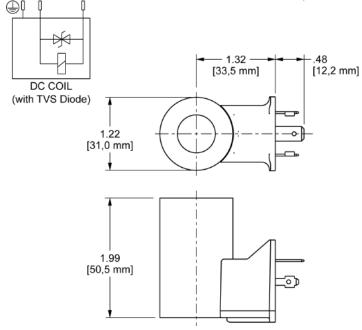
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

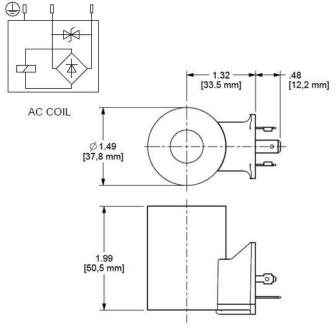
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	230 VAC 50/60 Hz
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FREP	PRDF	PRDG	RVCK	RVCL	RVCM
RVCN									

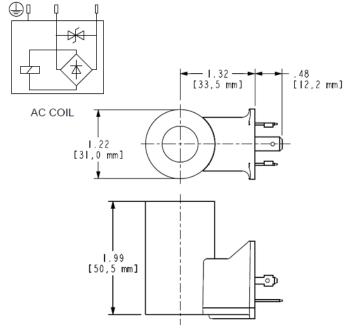
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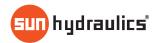
## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	230 VAC 50/60 Hz
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	991711300
991711600	991712300	991712600	991713030	991713060	991740002	XMD-01	XMD-02		

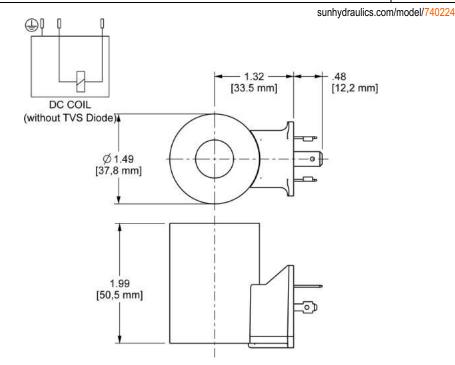
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MODEL **740224** 







## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

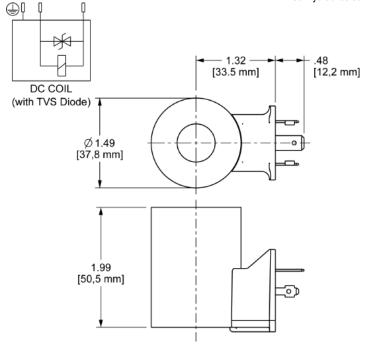
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

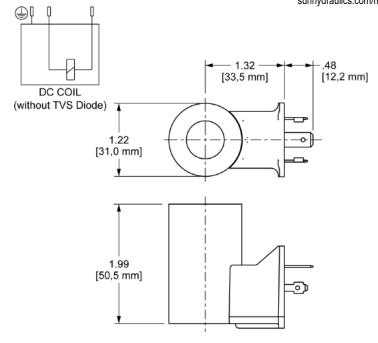
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

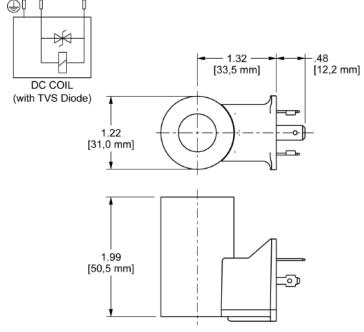
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

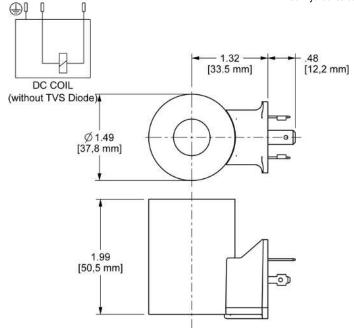
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

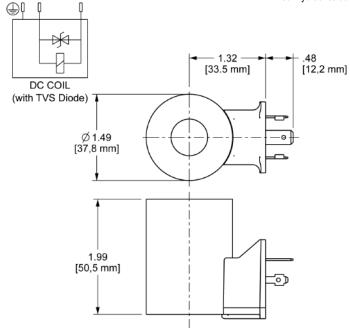
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

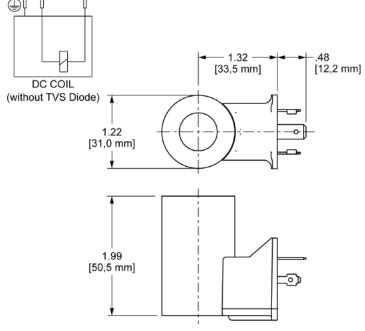
DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991740001	XMD-01	XMD-02	

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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

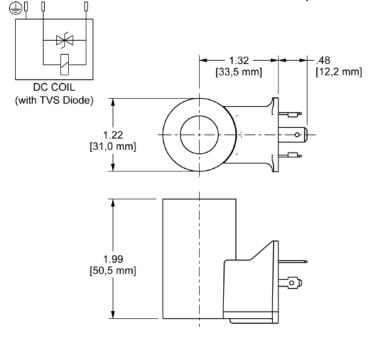
DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
991740002	XMD-01	XMD-02							

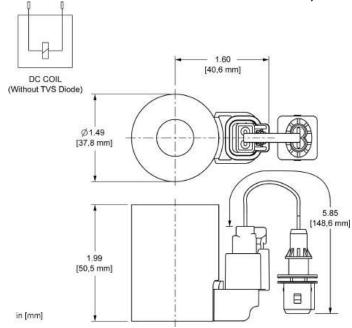
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Connector Environment Rating	IP67
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

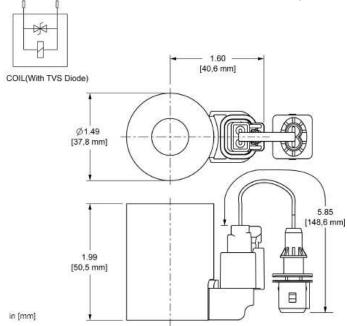
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Connector Environment Rating	IP67
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

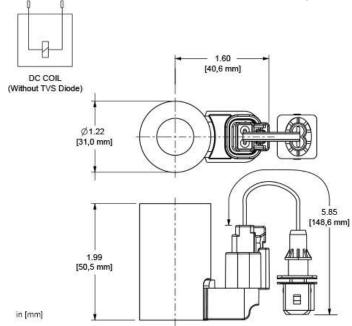
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Connector Environment Rating	IP67
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	RPEI								

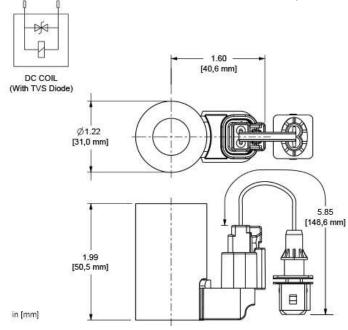
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Connector Environment Rating	IP67
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	RPEI								

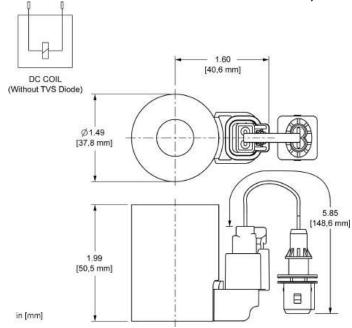
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

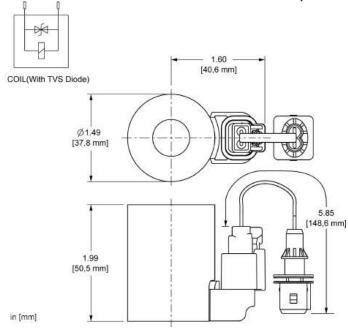
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

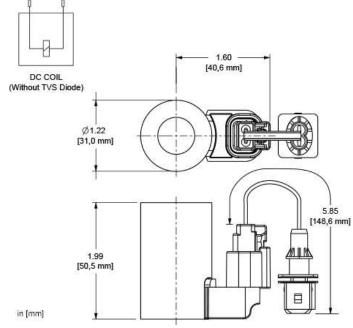
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

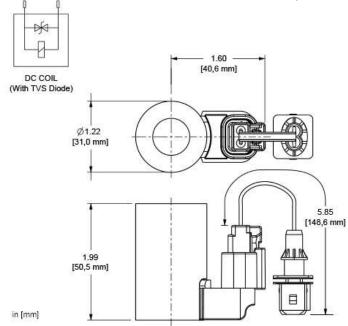
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

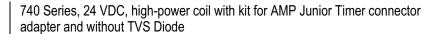
## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

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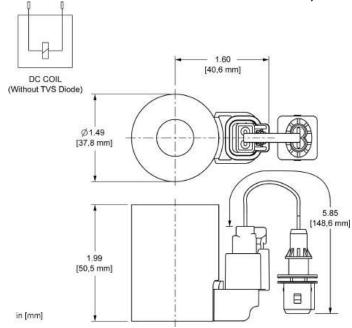




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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F		
Arc Suppression (TVS)	None		
Power Consumption (cold) - at rated voltage	25 Watts		
Maximum Ambient Temperature	122 °F		
Voltage/Frequency	24 VDC		
Operating Voltage Range	+10%/-15%		
Duty Cycle Rating	100 %		
Connector	AMP Junior Timer		
Coil Nut Torque	4.5 lbf in.		

### **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

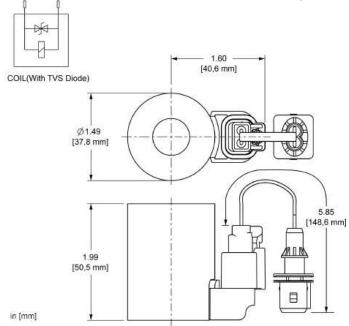
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF DBAFS DFBF DFBG DFCI DFCJ DFDI DFI	J DFEI DFEJ
DFFI DFFJ DLDF DLDFS DMBF DNBF DTAF DTA	FS DTBF DTCF
DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FPE	F FPBG FPBI
FPBJ FPBU FREP PRDF PRDG RPEI RVCK RVI	L RVCM RVCN

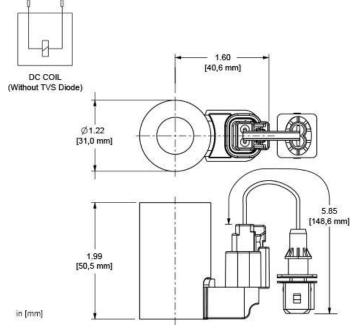
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

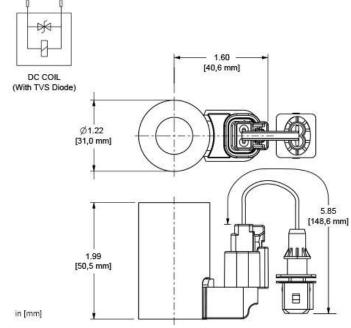
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FPBE	FPBM	FPBN	RPEI						

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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

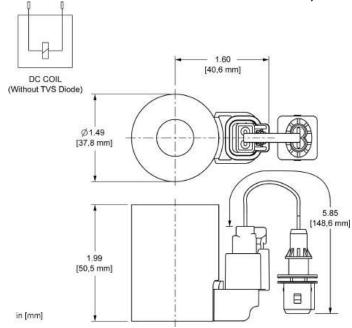
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

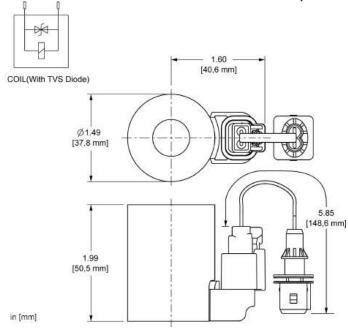
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

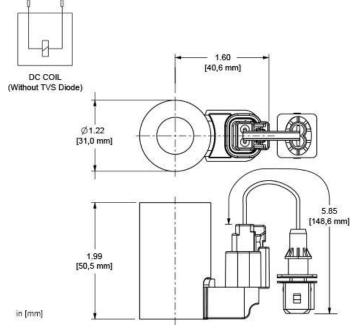
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

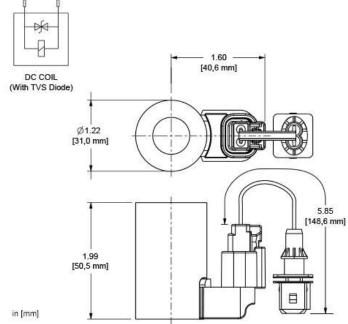
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	AMP Junior Timer
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

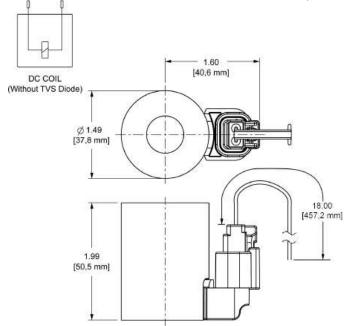
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

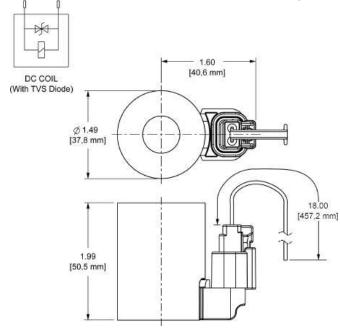
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

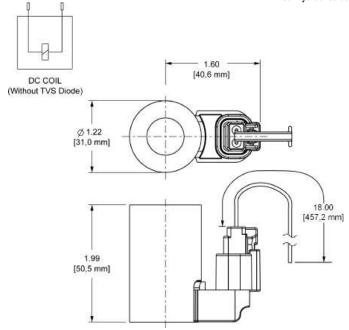
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

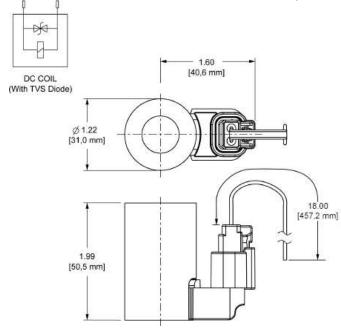
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

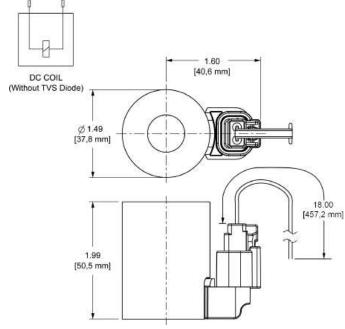
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

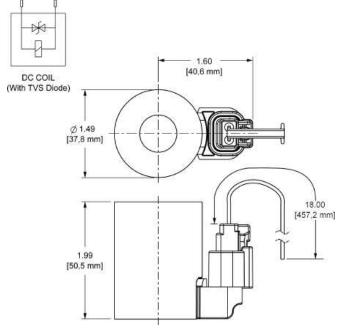
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

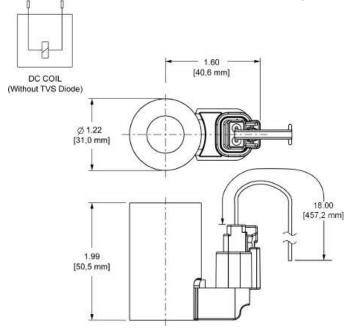
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

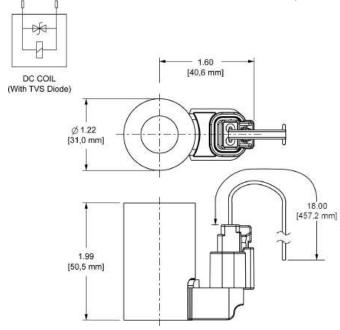
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

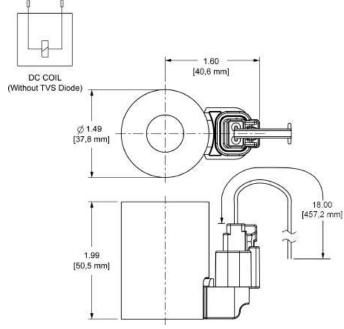
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

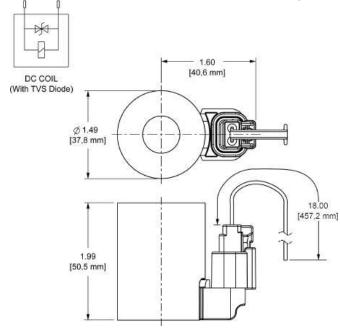
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

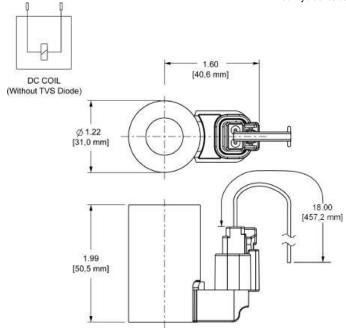
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

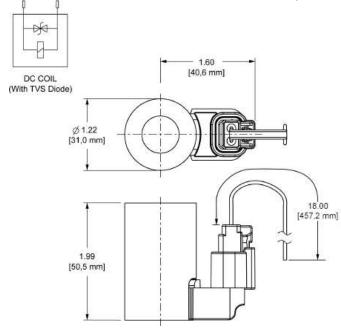
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

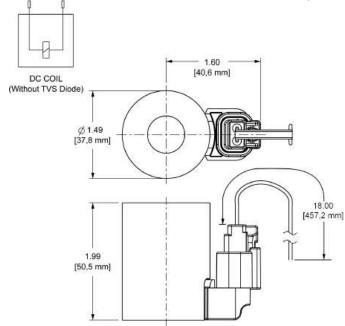
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN

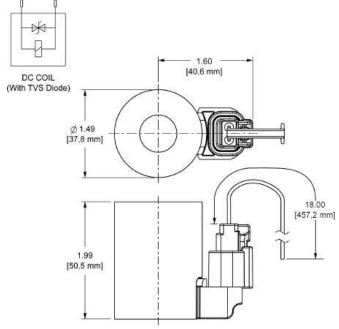
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

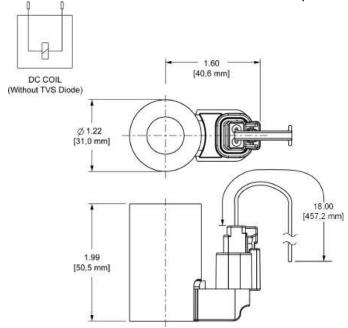
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

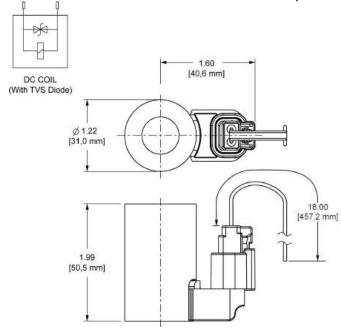
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 18 in. (460 mm)
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI						

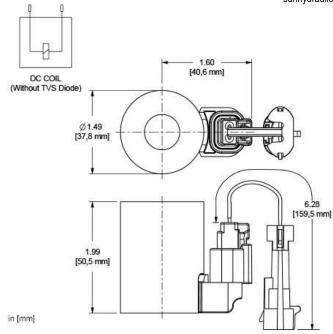
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

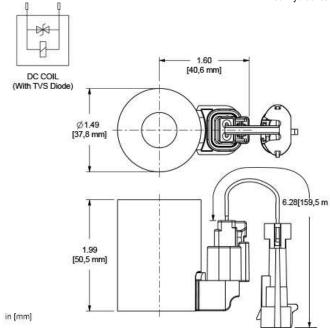
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

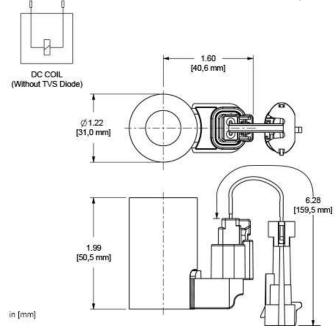
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

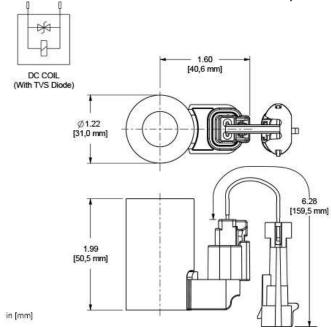
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

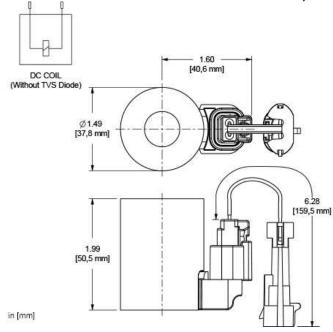
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sunhydraulics.com/model/740814



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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

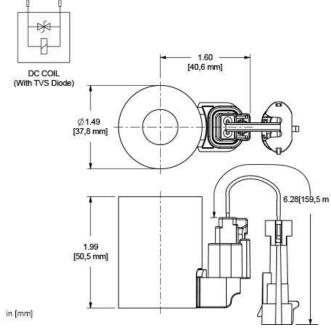
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

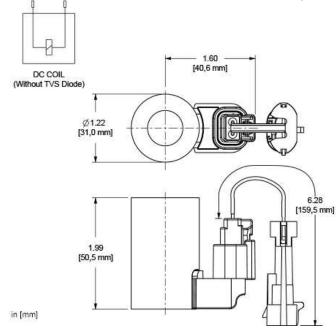
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

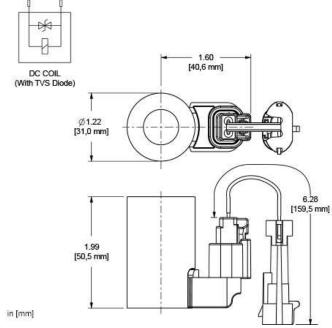
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

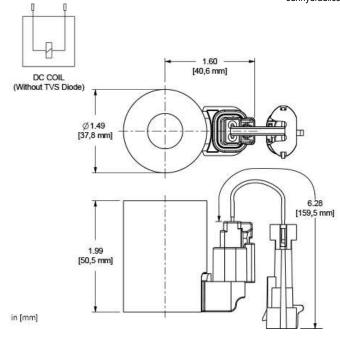
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

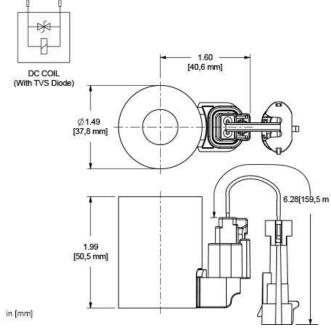
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF	DTDF
DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ
FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

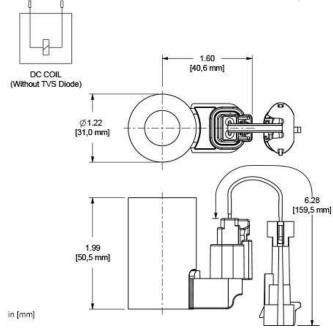
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

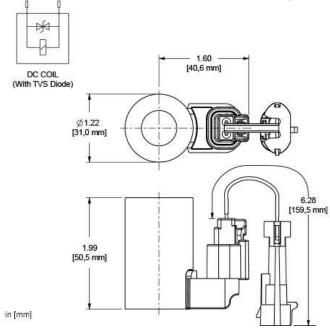
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

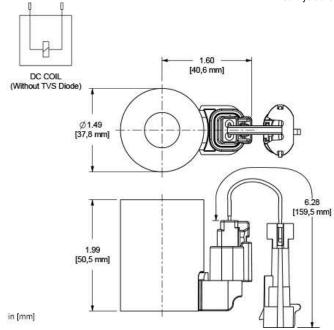
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DLDFS	DMBF	DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS
DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU
FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN		

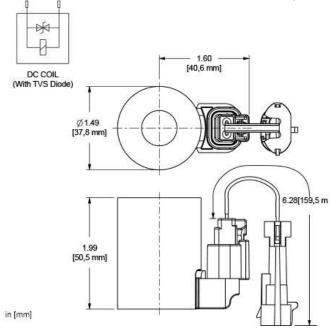
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

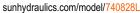
Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ	DFFI
DFFJ	DLDF	DMBF	DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF
DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP
PRDF	PRDG	RPFI	RVCK	RVCL	RVCM	RVCN			

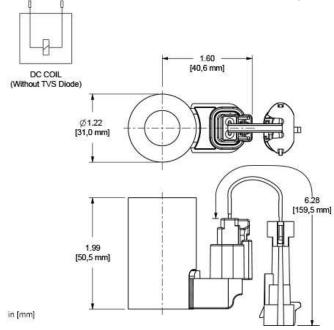
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Metripack Series 150-2M
Coil Nut Torque	4.5 lbf in.

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

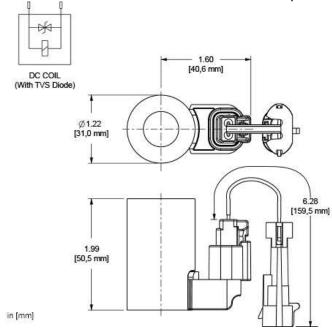
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This 740 Series Coil configuration uses a connector adapter kit to provide the required termination.

## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F		
Arc Suppression (TVS)	Included		
Power Consumption (cold) - at rated voltage	17 Watts		
Maximum Ambient Temperature	212 °F		
Voltage/Frequency	28 VDC		
Operating Voltage Range	+10%/-15%		
Duty Cycle Rating	100 %		
Connector	Metripack Series 150-2M		
Coil Nut Torque	4.5 lbf in.		

#### **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI							

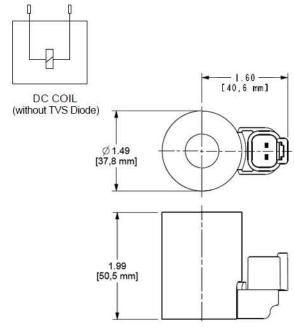
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
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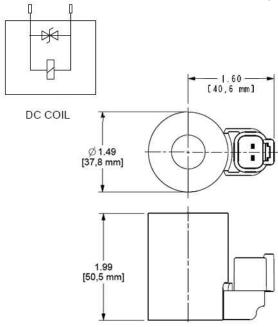
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
991723002	991740001	XMD-01	XMD-02						

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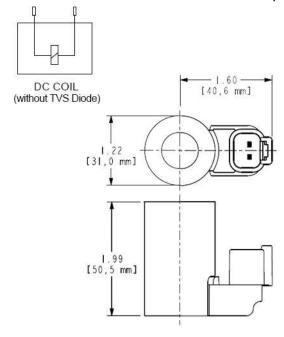








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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060	
991717	991718	991719	991723001	991723002	991740002	XMD-01	XMD-02			

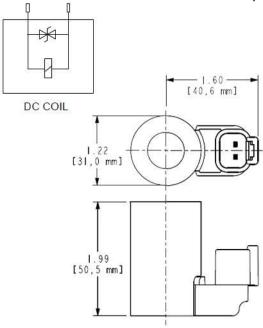
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
001717	001718	001710	991723001	001723002	9917/10002	YMD_01	XMD-03		

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MODEL **740914** 

740 Series, 14 VDC, high-power coil with Deutsch DT04-2P connector without TVS Diode



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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP
PRDF	PRDG	RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600
991713030	991713060	991717	991718	991719	991723001	991723002	991740001	XMD-01	XMD-02

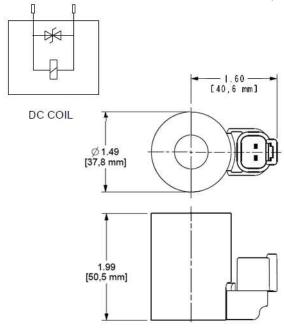
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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP
PRDF	PRDG	RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600
991713030	991713060	991717	991718	991719	991723001	991723002	991740001	XMD-01	XMD-02

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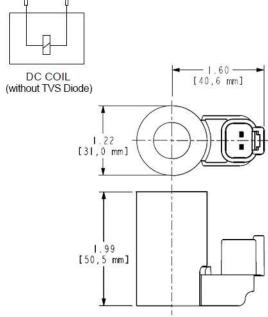






sunhydraulics.com/model/740914L





## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFDJ	DMBD	DNBD	DTAF	DTAFS	DTBF
FPBD	FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030
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112 of 208 © 2023 Sun Hydraulics

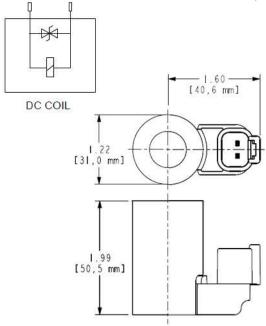






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## **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
001717	001718	001710	991723001	001723002	9917/10002	YMD_01	XMD-03		

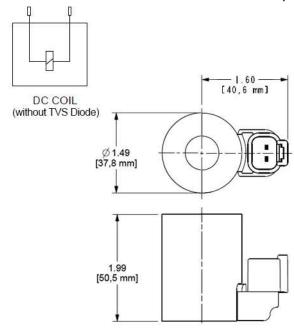
113 of 208 © 2023 Sun Hydraulics







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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
991723002	991740001	XMD-01	XMD-02						

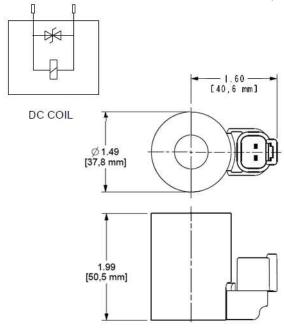
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
991723002	991740001	XMD-01	XMD-02						

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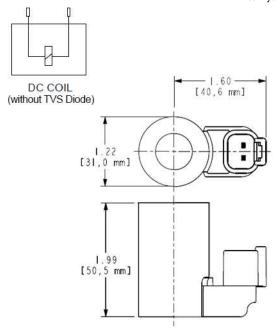


MODEL **740924L** 





sunhydraulics.com/model/740924L



# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
001717	001718	001710	991723001	001723002	9917/10002	YMD_01	XMD-03		

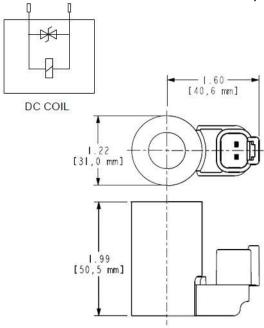
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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

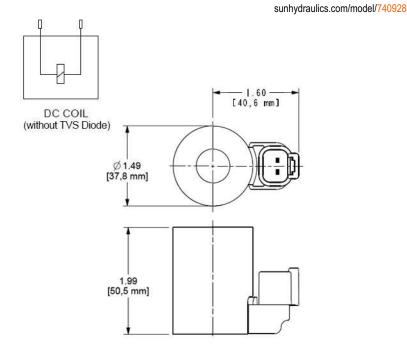
DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
001717	001718	001710	991723001	001723002	9917/10002	YMD_01	XMD-03		

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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Maximum Current - FLeX Valves (100% Duty Cycle at Maximum Ambient Temperature)	500 mA
Maximum Current - Non-FLeX Valves (100% Duty Cycle at Maximum Ambient Temperature)	560 mA
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
991723002	991740001	XMD-01	XMD-02						

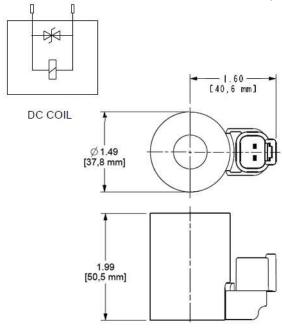
118 of 208 © 2023 Sun Hydraulics



sunhydraulics.com/model/740928D



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# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	25 Watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	DFEI	DFEJ
DFFI	DFFJ	DLDF	DLDFS	DMBF	DNBF	DTAF	DTAFS	DTBF	DTCF
DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	FMDG	FPBF	FPBG	FPBI
FPBJ	FPBU	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN
991711300	991711600	991712300	991712600	991713030	991713060	991717	991718	991719	991723001
991723002	991740001	XMD-01	XMD-02						

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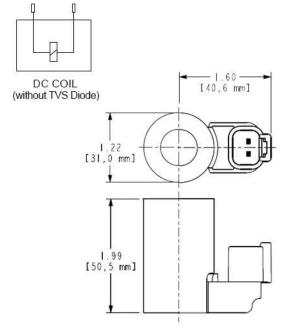


MODEL **740928L** 









# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD
FPBE	FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060
001717	001718	001710	991723001	001723002	9917/10002	YMD_01	XMD-03		

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MODEL **740928LD** 

740 Series, 28 VDC, low-power coil with Deutsch DT04-2P connector with TVS Diode



sunhydraulics.com/model/740928LD



# **TECHNICAL DATA**

Operating Temperature Range	-40 to 230 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	17 Watts
Maximum Ambient Temperature	212 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+10%/-15%
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DBAF	DFBD	DFBE	DMBD	DNBD	DTAF	DTAFS	DTBF	FPBD	FPBE
FPBM	FPBN	RPEI	991711300	991711600	991712300	991712600	991713030	991713060	991717
991718	991719	991723001	991723002	991740002	XMD-01	XMD-02			

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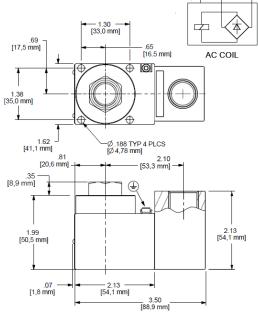






m hydraulics

sunhydraulics.com/model/747JM11BD (I)



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	115 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158°
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- A common practice to protect the internal bridge rectifier from unknown incoming voltage conditions is to install a TVS diode. For the 115-Vac coil, diode part number, 1.5KE250CA is recommended; for the 230-Vac coil, diode part number 1.5KE400CA is recommended. Depending on the application, diodes higher than 1500 W are recommended.

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

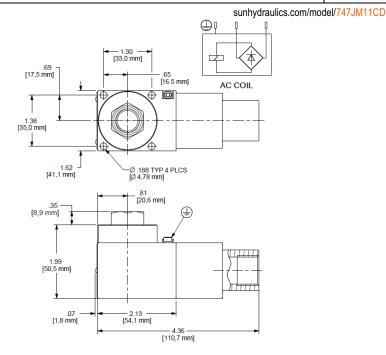
© 2023 Sun Hydraulics 122 of 208 DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FREP PRDG RPEI RVCK RVCL RVCM RVCN

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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	115 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- A common practice to protect the internal bridge rectifier from unknown incoming voltage conditions is to install a TVS diode. For the 115-Vac coil, diode
  part number, 1.5KE250CA is recommended; for the 230-Vac coil, diode part number 1.5KE400CA is recommended. Depending on the application,
  diodes higher than 1500 W are recommended.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be
  carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

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DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FREP PRDG RPEI RVCK RVCL RVCM RVCN

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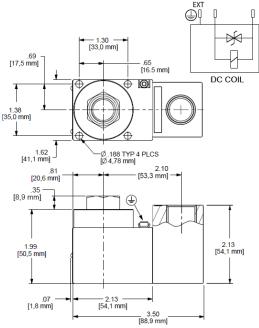






m hydraulics

sunhydraulics.com/model/747JM12BD



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	12 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158°
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

## **INCLUDED COMPONENTS**

Part	Description	Quantity
375-048-H00	Nut	1
500-101-016	O-Ring	1
747-JM12BDF	Coil Accessory - Explosion Proof	1

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# **USED WITH**

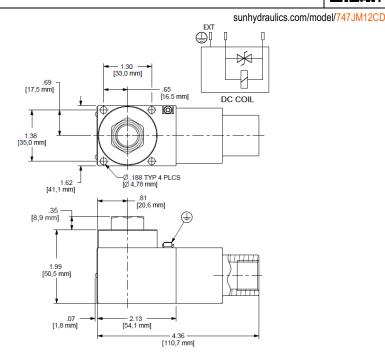
DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP	PRDF	PRDG	RPEI
RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600	XMD-01	XMD-02

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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	12 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For proportional valve applications, the maximum current of 590mA has been established so a proportional valve can function optimally under a variety of ambient temperatures.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be
  carried out by an electrician with adequate qualifications for hazardous locations.

## **INCLUDED COMPONENTS**

Part	Description	Quantity
375-048-H00	Nut	1
500-101-016	O-Ring	1
747-JM12CDF	Coil Accessory - Explosion Proof	1

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# **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP	PRDF	PRDG	RPEI
RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600	XMD-01	XMD-02

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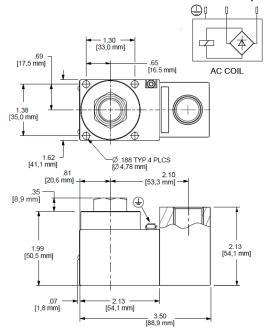






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sunhydraulics.com/model/747JM23BD



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	230 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158°
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- A common practice to protect the internal bridge rectifier from unknown incoming voltage conditions is to install a TVS diode. For the 115-Vac coil, diode part number, 1.5KE250CA is recommended; for the 230-Vac coil, diode part number 1.5KE400CA is recommended. Depending on the application, diodes higher than 1500 W are recommended.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

130 of 208 © 2023 Sun Hydraulics

DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FREP PRDF PRDG RPEI RVCK RVCL RVCM RVCN

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747 Series, 230 VAC hazardous location coil with 90 Deg M20 x 1.5 connector ATEX, IECEx, CSA



sunhydraulics.com/model/747JM23CD



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	230 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be
  carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

#### **INCLUDED COMPONENTS**

Part	Description	Quantity
375-048-H00	Nut	1
500-101-016	O-Ring	1
747-JM23CDF	Coil Accessory - Explosion Proof	1

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FREP	PRDF	PRDG	RPEI	RVCK	RVCL	RVCM	RVCN	

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EXT

EXT

1.30

[17.5 mm]

DC COIL

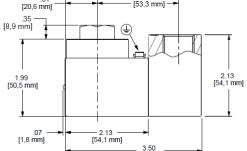
1.62

[41.1 mm]

2.10

[53.3 mm]

[53.3 mm]



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	24 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be
  carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF	
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	
@ 2023 S	un Hydraulics								133 of 20	R

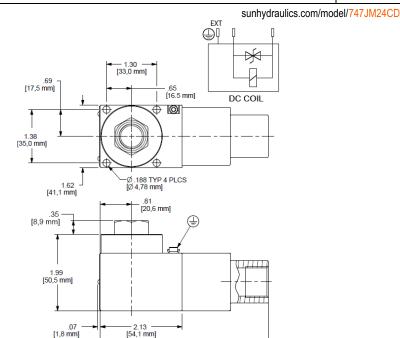
FMDG FPBF FPBG FPBI FPBJ FPBU FREP PRDF PRDG RPEI RVCN **RVCK RVCL RVCM** 991711300 991711600 991712300 991712600 XMD-01 XMD-02

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**sun** hydraulics



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

# **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	24 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	M20 x 1.5 female connector
Coil Nut Torque	4.5 lbf in.

# **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
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FMDG FPBF FPBG FPBI FPBJ FPBU FREP PRDF PRDG RPEI 991712600 **RVCK RVCL RVCM** RVCN 991711300 991711600 991712300 XMD-01 XMD-02

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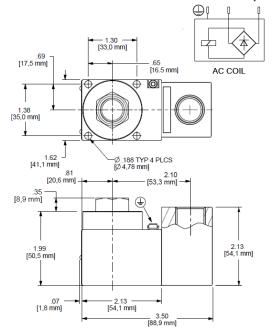






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sunhydraulics.com/model/747JN11BD



Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	115 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158°
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- A common practice to protect the internal bridge rectifier from unknown incoming voltage conditions is to install a TVS diode. For the 115-Vac coil, diode part number, 1.5KE250CA is recommended; for the 230-Vac coil, diode part number 1.5KE400CA is recommended. Depending on the application, diodes higher than 1500 W are recommended.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

137 of 208 © 2023 Sun Hydraulics

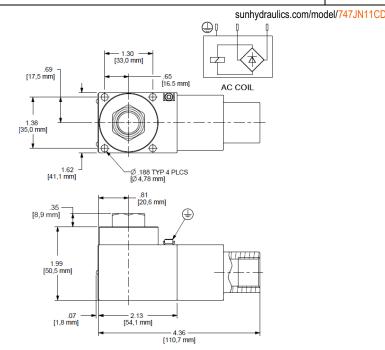
DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FREP PRDF PRDG RPEI RVCK RVCL RVCM RVCN

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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	115 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- A common practice to protect the internal bridge rectifier from unknown incoming voltage conditions is to install a TVS diode. For the 115-Vac coil, diode
  part number, 1.5KE250CA is recommended; for the 230-Vac coil, diode part number 1.5KE400CA is recommended. Depending on the application,
  diodes higher than 1500 W are recommended.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be
  carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

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DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDF FMDG FREP PRDF PRDG RPEI RVCK RVCL RVCM RVCN

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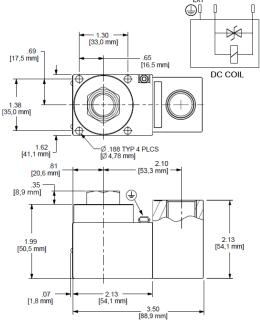






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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	12 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158°
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
- 4. Connect external ground. North American applications: external earth (ground) connections. Use where local codes or authorities permit or require external earth (ground) connections. Torque to 1.25 ft-lbs (1.7 N-m).
- 5. When installing with multiple coils, the coils must be spaced a minimum of 0.875" (22.23 mm) apart to ensure adequate heat dissipation.
- For installation in above-ground electrical systems in explosive atmospheres, procedures for all applicable codes must be observed. All work must be carried out by an electrician with adequate qualifications for hazardous locations.
- Sun's 747 Series hazardous location coil requires more clearance than the FLeX 740 series coil. Sun manifolds with more than one cavity may not allow enough clearance for these coils. An additional 2.00" (50,8 mm) beyond the valve extension is needed for coil installation

## **USED WITH**

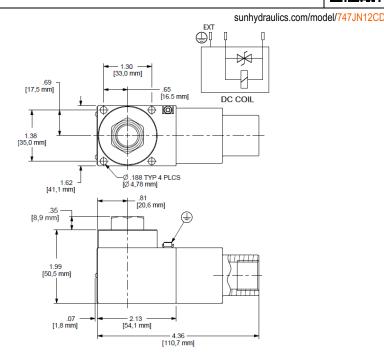
DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP	PRDF	PRDG	RPEI
RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600	XMD-01	XMD-02

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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	12 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

## **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
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## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP	PRDF	PRDG	RPEI
RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600	XMD-01	XMD-02

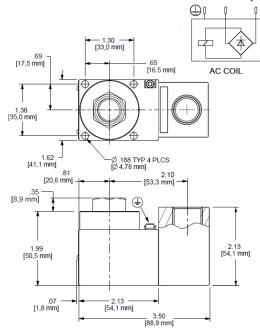
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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	230 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
- 2. A cable entry hole is provided to accommodate any suitable certified flameproof cable entry device. Cable entry temperature may exceed 70° C (158° F).
- 3. Remove terminal box cover and connect electrical supply and earth to terminal block. Conductors according to Note 4. Note: coil is polarity insensitive. The center terminal is the internal ground. Replace cover and secure with the four screws (M4 x ,7). Torque to min 1.92
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#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

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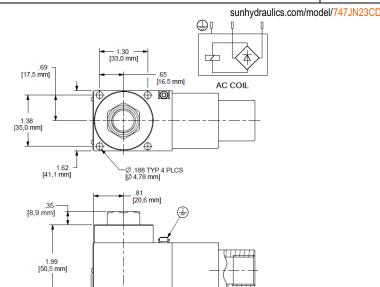
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---- 4.36 ----[110,7 mm]

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— 2.13 — [54,1 mm]

[1,8 mm]

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	230 VAC 50/60 Hz (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

#### **NOTES**

- 1. Mount coil onto spool (tube) body.
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#### **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF

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DTAF DTAFS DTBF DTCF DTDF DTDFS DWBF DWDF FDEP FMDG FPBF FREP PRDF PRDG RPEI RVCK RVCL RVCM RVCN

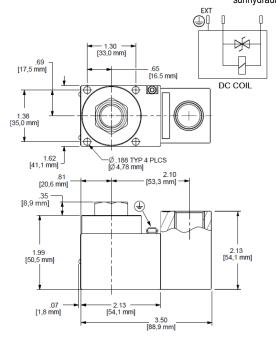
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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

#### **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
Diametric Coil Clearance Requirement	2.36 in.
Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	24 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
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## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF
FMDG	FPBF	FPBG	FPBI	FPBJ	FPBU	FREP	PRDF	PRDG	RPEI
RVCK	RVCL	RVCM	RVCN	991711300	991711600	991712300	991712600	XMD-01	XMD-02

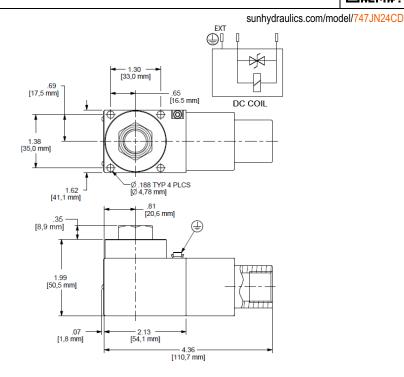
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Model 747 Series hazardous location coils are designed for Sun's FLeX Series switching and proportional solenoid valves and for newer Sun valves that use the 16-mm actuator tubes. All models include ATEX, IECEx, and NEC, CEC/CSA certifications.

# **TECHNICAL DATA**

Operating Temperature Range	-40 to 158 °F
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Power Consumption at 68°F (20°C) cold - at rated voltage	30 watts
Voltage/Frequency	24 VDC (-15%/+0%)
Duty Cycle Rating	100 %
Connector	1/2" NPT female connector
Coil Nut Torque	4.5 lbf in.

### **NOTES**

- 1. Mount coil onto spool (tube) body.
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## **USED WITH**

DBAF	DBAFS	DFBD	DFBE	DFBF	DFBG	DFCI	DFCJ	DFDI	DFDJ	
DFEI	DFEJ	DFFI	DFFJ	DLDF	DLDFS	DMBD	DMBF	DNBD	DNBF	
DTAF	DTAFS	DTBF	DTCF	DTDF	DTDFS	DWBF	DWDF	FDEP	FMDF	
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FMDG FPBF FPBG FPBI FPBJ FPBU FREP PRDF PRDG RPEI RVCN 991712600 **RVCK RVCL RVCM** 991711300 991711600 991712300 XMD-01 XMD-02

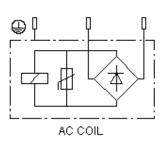
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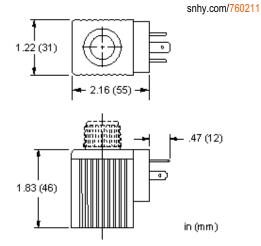












Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	12 watts
Voltage/Frequency	115 VAC 50/60 Hz
Operating Voltage Range	+/- 20% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

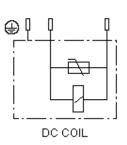
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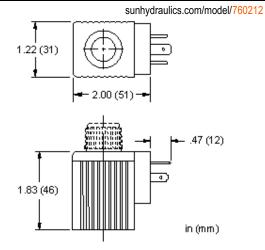
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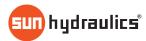
# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	12 watts
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 20% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

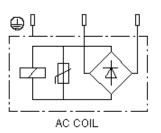
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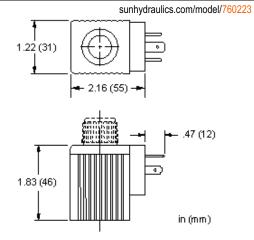
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### **TECHNICAL DATA**

Title	ISO/DIN 43650 Connector
Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	12 watts
Voltage/Frequency	230 VAC 50/60 Hz
Operating Voltage Range	+/- 20% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

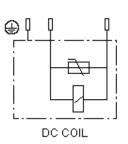
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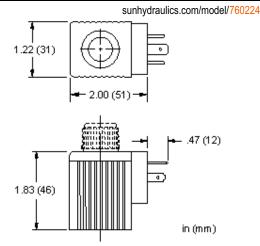
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# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	12 watts
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 20% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DAAA DACC DBAA

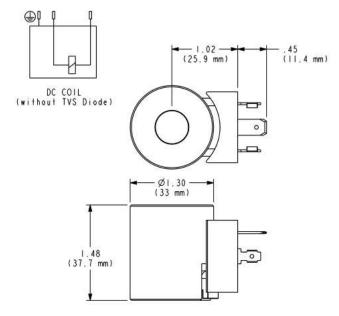
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sunhydraulics.com/model/769212



sun hydraulics



### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	20.5 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	44 lbf in.

### **USED WITH**

DNTC

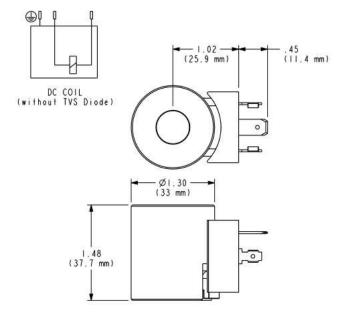
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### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	20.5 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	44 lbf in.

### **USED WITH**

DNTC

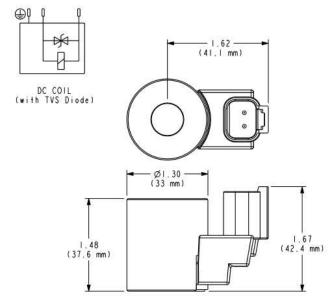
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### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	20.5 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

### **USED WITH**

DMTA DNTC PRTS

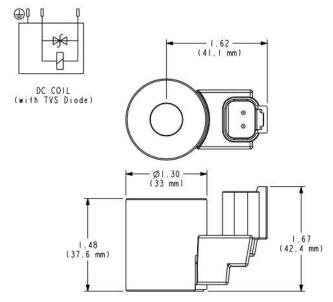
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### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	20.5 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

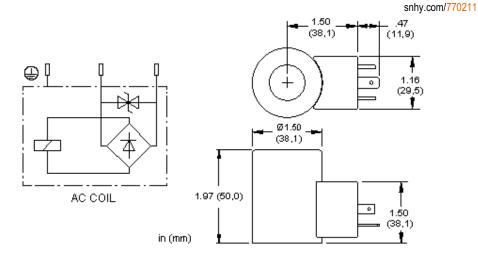
### **USED WITH**

DMTA DNTC PRTS

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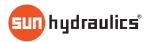
# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	115 VAC 50/60 Hz
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DAAL	DAALS	DBAL	DBALS	DFCA	DFCB	DFDA	DFDB	DFEA	DFEB
DFFA	DFFB	DLDA	DLDAS	DLDAZ	DMDA	DMDAS	DMDAZ	DNCA	DNCAZ
DNDA	DNDAS	DNDC	DNDY	DNDYS	DTCA	DTCAZ	DTDA	DTDAS	DWDA
HDDA									

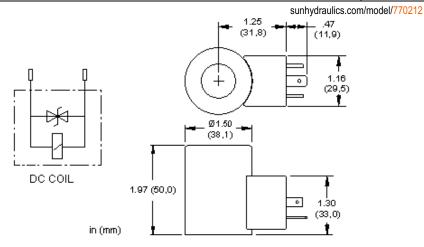
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Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP									

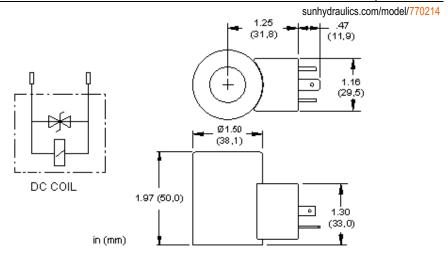
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Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FPCC	FPCH
EDEK	EDUK								

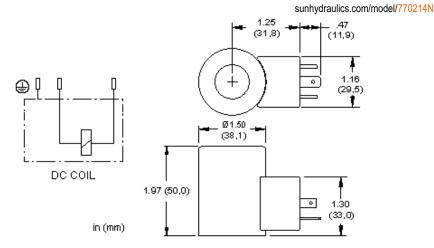
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Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

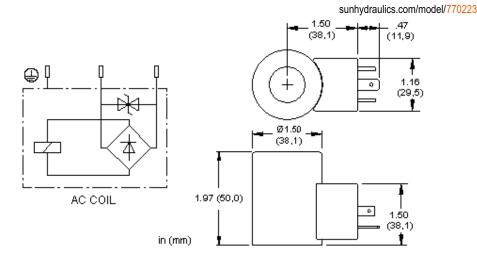
DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP									

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# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	230 VAC 50/60 Hz
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

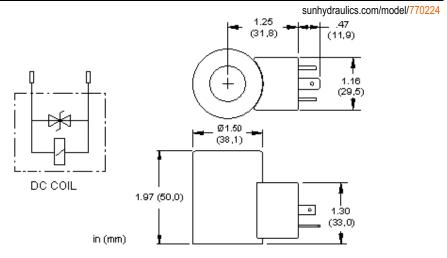
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DFFA	DFFB	DLDA	DLDAS	DLDAZ	DMDA	DMDAS	DMDAZ	DNCA	DNCAZ
DNDA	DNDAS	DNDC	DNDY	DNDYS	DTCA	DTCAZ	DTDA	DTDAS	DWDA
HDDA									

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### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

# **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	<b>FMDB</b>
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP									

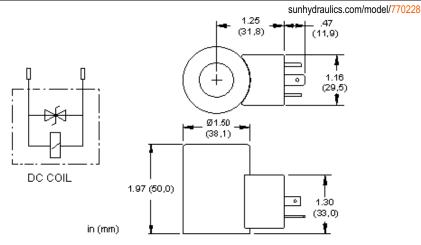
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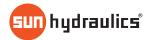


Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA DMDAS DNCA DNDA DNDAS DNDC DNDY DNDYS FMDA

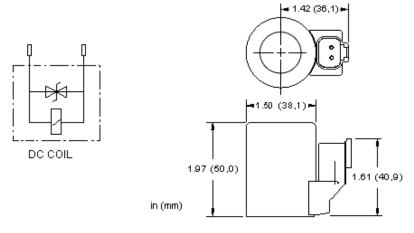
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### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP	991723001	991723002							

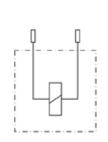
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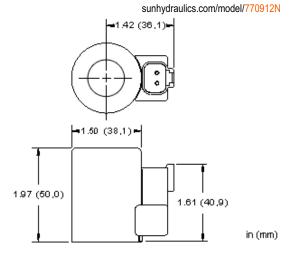
MODEL 770912N







DC Coil - No Diode



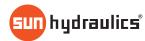
### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

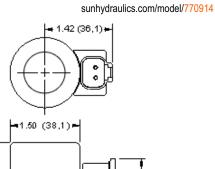
DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP	991723001	991723002							

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1.61 (40,9)

### **TECHNICAL DATA**

DC COIL

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

1.97 (50,0)

in (mm)

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDB	FPCC
FPHK	RBAP	991723001	991723002						

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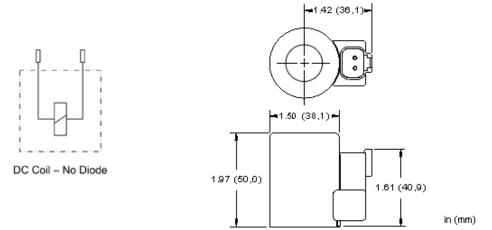


MODEL **770914N** 



sunhydraulics.com/model/770914N





### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	14 VDC
Operating Voltage Range	+/- 10% nominal
Connector	Deutsch DT04-2P
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

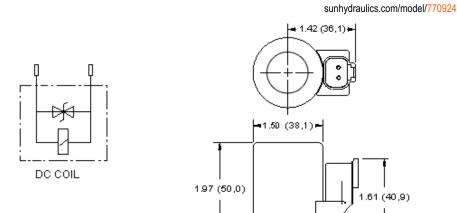
DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDB	FPCC
FPHK	RBAP	991723001	991723002						

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in (mm)

### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP	991723001	991723002							

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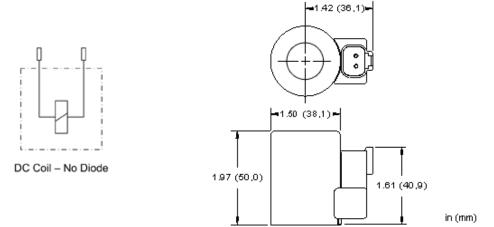


MODEL 770924N



sunhydraulics.com/model/770924N





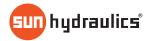
### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	FMDB
FPCC	FPCH	FPFK	FPHK	HDDA	PRDM	PRDN	PSDL	PSDP	RBAN
RBAP	991723001	991723002							

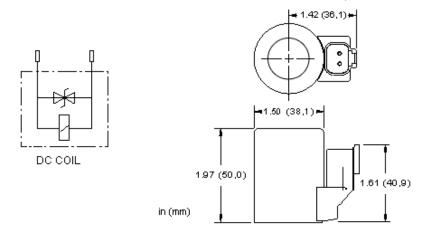
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### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	28 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Connector Environment Rating	IP69K
Coil Nut Torque	4.5 lbf in.

### **USED WITH**

DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC	DNDY	DNDYS	FMDA	991723001
991723002									

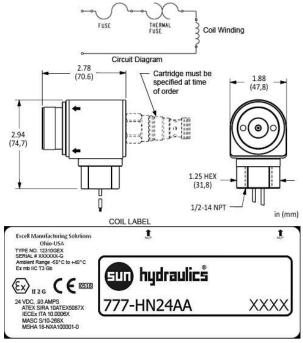
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snhy.com/777HN24AA



**sun** hydraulics



Sun offers explosion proof coils for use in hazardous environments. Certification requires the explosion proof coil to be sold as a complete cartridge/coil assembly. Coil cannot be purchased separately. For ordering information, please see the coil option section on the applicable cartridge product page.

#### **TECHNICAL DATA**

Ambient Temperature Range	-58 to 104 °F
Power Consumption (cold) - at rated voltage	22 watts
Nominal Current	0.93 amps at 68°F (20°C), 24 VDC
Diametric Coil Clearance Requirement	2.125 in.
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Current Fuse (non-resettable)	3 amps
Thermal Fuse (non-resettable)	378 °F
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG X 10 ft. (3 m), 1/2-14 NPT female conduit connector
Connector Environment Rating	IP67
Lead Wire Rating	AWM styles 3289 150°C - 3271 125°C, 600V VW-1 LL30433 CSA CL1251 125°C or CL1503 150°C, XLPE 600V 18 AWG
Coil Nut Torque	6 - 7 lbf ft

#### **NOTES**

- Coil/cartridge assembly can be mounted in any position, however, coil orientation on cartridge assembly is critical. Arrows on coil label must face towards
  coil nut.
- Coil cannot be purchased separately and must be configured along with the cartridge valve. Please see the applicable cartridge product page for ordering information.
- Sun's explosion proof coil requires more clearance than 770 series coil. Sun manifolds with more than one cavity may not allow enough clearance for explosion proof coils.
- For proportional valve applications, the maximum current of 590mA has been established so a proportional valve can function optimally under a variety of ambient temperatures.

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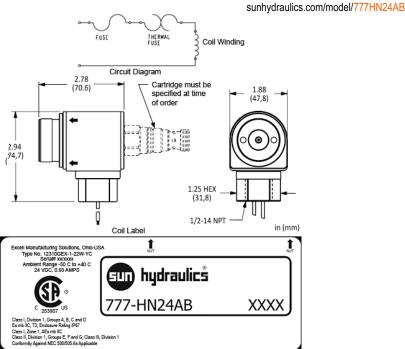
### **USED WITH**

DAAL	DAALS	DBAL	DBALS	DFCA	DFCB	DFDA	DFDB	DFEA	DFEB
DFFA	DFFB	DLDA	DLDAS	DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC
DNDY	DNDYS	DTCA	DTDA	DTDAS	DWDA	FMDA	FMDB	FPCC	FPCH
FPFK	FPHK	HDDA	PRDL	PRDM	PRDN	PRDP	PSDL	PSDP	RBAN
RBAP									

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Sun offers explosion proof coils for use in hazardous environments. Certification requires the explosion proof coil to be sold as a complete cartridge/coil assembly. Coil cannot be purchased separately. For ordering information, please see the coil option section on the applicable cartridge product page.

#### **TECHNICAL DATA**

Ambient Temperature Range	-58 to 104 °F
Power Consumption (cold) - at rated voltage	22 watts
Nominal Current	0.93 amps at 68°F (20°C), 24 VDC
Diametric Coil Clearance Requirement	2.125 in.
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Current Fuse (non-resettable)	3 amps
Thermal Fuse (non-resettable)	378 °F
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG X 10 ft. (3 m), 1/2-14 NPT female conduit connector
Lead Wire Rating	AWM styles 3289 150°C - 3271 125°C, 600V VW-1 LL30433 CSA CL1251 125°C or CL1503 150°C, XLPE 600V 18 AWG
Coil Nut Torque	6 - 7 lbf ft

#### **NOTES**

- Coil/cartridge assembly can be mounted in any position, however, coil orientation on cartridge assembly is critical. Arrows on coil label must face towards
  coil nut.
- Coil cannot be purchased separately and must be configured along with the cartridge valve. Please see the applicable cartridge product page for ordering information.
- Sun's explosion proof coil requires more clearance than 770 series coil. Sun manifolds with more than one cavity may not allow enough clearance for explosion proof coils.
- For proportional valve applications, the maximum current of 590mA has been established so a proportional valve can function optimally under a variety of ambient temperatures.

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**USED WITH** 

DAAL	DAALS	DBAL	DBALS	DFCA	DFCB	DFDA	DFDB	DFEA	DFEB
DFFA	DFFB	DLDA	DLDAS	DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC
DNDY	DNDYS	DTCA	DTDA	DTDAS	DWDA	FMDA	FMDB	FPCC	FPCH
FPFK	FPHK	HDDA	PRDL	PRDM	PRDN	PRDP	PSDL	PSDP	RBAN
RBAP									

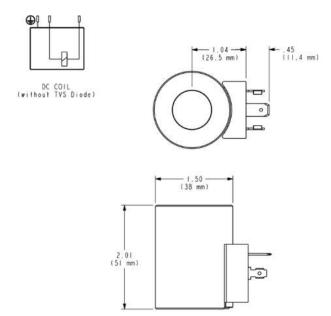
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sunhydraulics.com/model/778212



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### **TECHNICAL DATA**

Arc Suppression (TVS)	None
Maximum Ambient Temperature	104 °F
Power Consumption at 68°F (20°C) cold - at rated voltage	36.9 watts
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	3.5 - 3.9 lbf ft

### **USED WITH**

FNUC

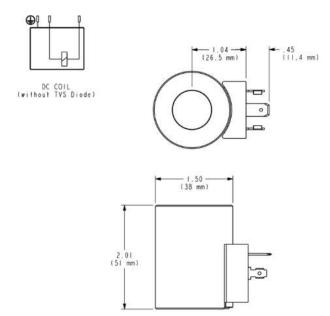
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sunhydraulics.com/model/778224



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### **TECHNICAL DATA**

Arc Suppression (TVS)	None
Maximum Ambient Temperature	104 °F
Power Consumption at 68°F (20°C) cold - at rated voltage	39.7 watts
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	3.5 - 3.9 lbf ft

### **USED WITH**

FNUC

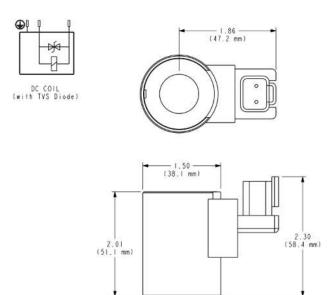
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# **TECHNICAL DATA**

Arc Suppression (TVS)	Included
Maximum Ambient Temperature	104 °F
Power Consumption at 68°F (20°C) cold - at rated voltage	36.9 watts
Voltage/Frequency	12 VDC
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	3.5 - 3.9 lbf ft

### **USED WITH**

FNUC

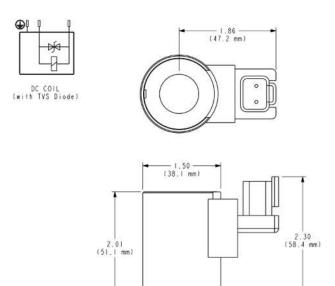
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# **TECHNICAL DATA**

Arc Suppression (TVS)	Included
Maximum Ambient Temperature	104 °F
Power Consumption at 68°F (20°C) cold - at rated voltage	39.7 watts
Voltage/Frequency	24 VDC
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	3.5 - 3.9 lbf ft

#### **USED WITH**

FNUC

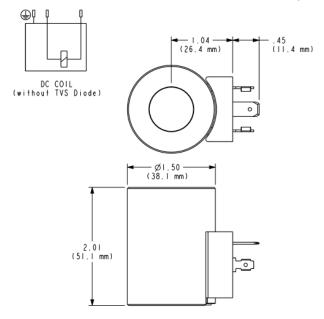
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### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	24 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	44 lbf in.

### **USED WITH**

DNUC

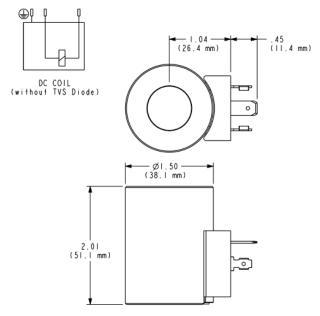
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### **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	None
Power Consumption (cold) - at rated voltage	24 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Coil Nut Torque	44 lbf in.

### **USED WITH**

DNUC

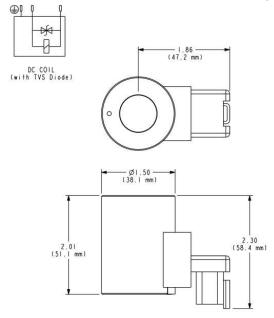
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# **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	24 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

### **USED WITH**

DNUC

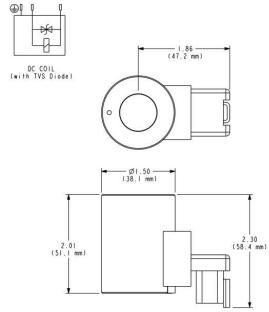
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# **TECHNICAL DATA**

Operating Temperature Range	-4 to 215 °F
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	24 Watts
Maximum Ambient Temperature	104 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

### **USED WITH**

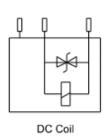
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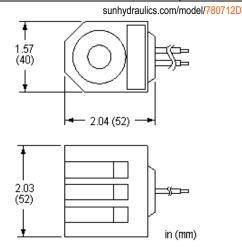
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### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	221°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 24 in. (610 mm)
Coil Nut Torque	44 lbf in.

### **USED WITH**

DLUT DMUQ DMUT DNUT

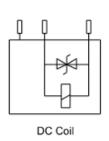
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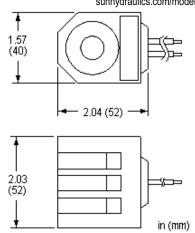






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### **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	221°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Twin lead 18 AWG x 24 in. (610 mm)
Coil Nut Torque	44 lbf in.

### **USED WITH**

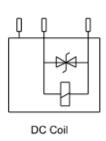
DLUT DMUQ DMUT DNUT

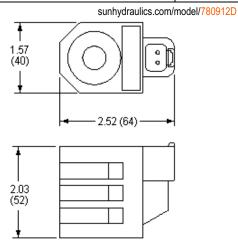
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780 Series, 12 VDC coil with Deutsch DT04-2P connector and TVS Diode - common cavity









# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	221°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	12 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

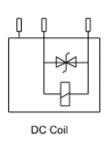
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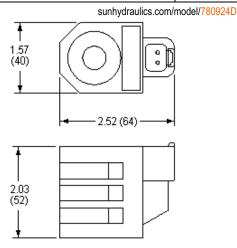
DLUT DMUQ DMUT DNUT

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# **TECHNICAL DATA**

Maximum Coil Temperature at 68°F (20°C) Ambient	221°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	122 °F
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	Deutsch DT04-2P
Coil Nut Torque	44 lbf in.

# **USED WITH**

DLUT DMUQ DMUT DNUT

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**MODEL** 7902B12V



sunhydraulics.com/model/7902B12V

Infrared





Communication Windows DIN 43650-Form A Connector 3.25 (82.6)Terminal Function Supply Common 2 +V Supply 3 Command Input 4 790-2B\*\*\*-Command Common 790-2C\*\*\*-+5V Reference 1.49 2.50 790-2D\*\*\*-Enable Input (37.9)(63.5)in (mm)

The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

## **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	1200 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-10V
Analog Input Impedance	13 Kilo-ohms
Card Function	Ground Option
Voltage/Frequency	12 VDC
Connector	ISO/DIN 43650, Form A, 4-pin
Connector Environment Rating	IP65

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

## **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDI	PSDP	RBAN	RBAP	991700	991702	991704			

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3.25 (82.6)

in (mm)

snhy.com/7902B24A





The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

# **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	600 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-20 mA
Analog Input Impedance	250 ohms
Card Function	Ground Option
Voltage/Frequency	24 VDC
Connector	ISO/DIN 43650, Form A, 4-pin
Connector Environment Rating	IP65

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

#### **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704			

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snhy.com/7902B24V

3.25 (82.6)

in (mm)





#### DIN 43650-Form A Connector

Terminal	Function
1	Supply Common
2	+V Supply
3	Command Input
4	790-2B***-Command Common
4	790-2C***-+5V Reference
4	790-2D***-Enable Input



The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

# **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	600 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-10V
Analog Input Impedance	13 Kilo-ohms
Card Function	Ground Option
Voltage/Frequency	24 VDC
Connector	ISO/DIN 43650, Form A, 4-pin
Connector Environment Rating	IP65

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

# **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704			

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sunhydraulics.com/model/7902C24V





#### DIN 43650-Form A Connector

Terminal	Function
1	Supply Common
2	+V Supply
3	Command Input
4	790-2B***-Command Common
4	790-2C***-+5V Reference
4	790-2D***-Enable Input





The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

# **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	600 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Reference Voltage	+5V at 1mA
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-10V
Analog Input Impedance	13 Kilo-ohms
Card Function	+5V Reference Option
Voltage/Frequency	24 VDC
Connector	ISO/DIN 43650, Form A, 4-pin
Connector Environment Rating	IP65

**NOTES** 

A source type input is required. A sinking type analog input will damage the amplifier.

## **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704			

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sunhydraulics.com/model/7902D24V





#### DIN 43650-Form A Connector

Terminal	Function				
1	Supply Common				
2	+V Supply				
3	Command Input				
4	790-2B***-Command Common				
4	790-2C***-+5V Reference				
4	790-2D***-Enable Input				





The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

# **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%	
Output Current	600 mA	
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments	
Operating Temperature Range	-4 - 158 °F	
Analog Input Range	0-10V	
Analog Input Impedance	13 Kilo-ohms	
Card Function	Enable Signal Option	
Voltage/Frequency	24 VDC	
Connector	ISO/DIN 43650, Form A, 4-pin	

**NOTES** 

A source type input is required. A sinking type analog input will damage the amplifier.

## **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704			

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The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

## **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	1200 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Reference Voltage	+5V at 1mA
Operating Temperature Range	-20 to 70 °C
Analog Input Range	0-10V
Analog Input Impedance	13 Kilo-ohms
Card Function	All Options
Voltage/Frequency	12 VDC
Connector	Deutsch DT04-6P

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

# **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704	991706003	991706006	

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MODEL **7904A24A** 



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The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

## **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	600 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Reference Voltage	+5V at 1mA
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-20 mA
Analog Input Impedance	250 ohms
Card Function	All Options
Voltage/Frequency	24 VDC
Connector	Deutsch DT04-6P

**NOTES** 

A source type input is required. A sinking type analog input will damage the amplifier.

## **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704	991706003	991706006	

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The Embedded Electronics Amplifier is a compact, low profile coil/controller combination for use with proportional solenoid valves. The Amplifier provides current to the coil in proportion to an input signal. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit.

## **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Output Current	600 mA
Dither Frequency	Off, 80-300 Hz, in 20 Hz increments
Reference Voltage	+5V at 1mA
Operating Temperature Range	-4 - 158 °F
Analog Input Range	0-10V
Analog Input Impedance	13 Kilo-ohms
Card Function	All Options
Voltage/Frequency	24 VDC
Connector	Deutsch DT04-6P

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

## **USED WITH**

FMDA	FMDB	FPCC	FPCH	FPFK	FPHK	PRDL	PRDM	PRDN	PRDP
PSDL	PSDP	RBAN	RBAP	991700	991702	991704	991706003	991706006	

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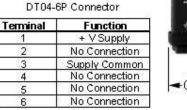




sunhydraulics.com/model/7904E12V









The Power Saver is a compact, low profile coil/controller combination for use with switching solenoid valves. The Power Saver controls current to the coil to minimize power consumption. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit. The Power Saver is intended for use on continuous duty applications (minimum switches between on and off).

#### **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Operating Temperature Range	-4 - 158 °F
Analog Input Impedance	13 Kilo-ohms
Card Function	Power Saver
Output Current for 6 seconds (max.)	2000 mA
Output Current for holding (max.)	1600 mA
Voltage/Frequency	12 VDC
Connector	Deutsch DT04-6P

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

#### **USED WITH**

DAAL	DAALS	DBAL	DBALS	DFDA	DLDA	DLDAS	DMDA	DMDAS	DNCA
DNDA	DNDAS	DNDC	DNDY	DNDYS	DTCA	DTDA	DWDA	HDDA	991700
991702	991704	991706003	991706006						

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Terminal	Function
1	+ V Supply
2	No Connection
3	Supply Common
4	No Connection
5	No Connection
6	No Connection

DT04-6P Connector



The Power Saver is a compact, low profile coil/controller combination for use with switching solenoid valves. The Power Saver controls current to the coil to minimize power consumption. Bright LED indicators on the unit provide an overview of the operating status. Setup is accomplished through Sun's Amplifier Set Up Software or the Hand Held Programmer (HHP). There is no cover to remove and no tiny pots to set. Once configured, the settings are stored in permanent memory within the unit. The Power Saver is intended for use on continuous duty applications (minimum switches between on and off).

## **TECHNICAL DATA**

Supply Voltage	Equals coil voltage within +/-10%
Operating Temperature Range	-4 to 158 °F
Analog Input Impedance	13 Kilo-ohms
Card Function	Power Saver
Output Current for 6 seconds (max.)	2000 mA
Output Current for holding (max.)	1600 mA
Voltage/Frequency	24 VDC
Connector	Deutsch DT04-6P

**NOTES** A source type input is required. A sinking type analog input will damage the amplifier.

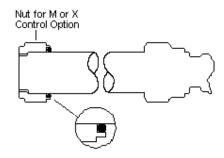
## **USED WITH**

DAALS	DBALS	DFDA	DLDAS	DMDA	DMDAS	DNCA	DNDA	DNDAS	DNDC
DNDY	DNDYS	DTCA	HDDA	991700	991702	991704	991706003	991706006	

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Sun coil seal kits for full flow and proportional solenoid operated cartridges contain all replacement seals, a replacement coil nut and installation instructions. Please note: All seals contained in a coil seal kit are constructed of Viton.

# **USED WITH**

DMDA	DNCA	DNDA	DNDC	DNDY	DTCA	FMDA	FMDB	FPCC	FPCH
FPFK	FPHK	HDDA	PRDL	PRDM	PRDN	PRDP	PSDL	PSDP	RBAN
RBAP									

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Sun's Hand Held Programmer (HHP) provides a convenient method to access configuration settings in Sun's 790 Series Embedded Digital Proportional Valve Amplifier. Simply plug the adapter cable into the programmer and connect the infrared-end into the embedded electronics coil and it is ready to use. The programmer is lightweight and compact for easy handling.

## **TECHNICAL DATA**

Supply Voltage	9 VDC (requires standard 9 Volt battery/format EN22, 6LR61, 6AM6)
Operating Temperature Range	0 to 70 °C

# **USED WITH**

7902B12A	7902B12V	7902B24A	7902B24V	7902C12V	7902C24V	7902D12A	7902D24A	7902D24V	7902E12V
7902E24V	7902F12V	7902F24V	7904A12A	7904A12V	7904A24A	7904A24V	7904E12V	7904E24V	7904F12V
7904F24V	991702	991704							

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Sun's USB Infrared Cable Adapter provides a convenient interface between Sun's 790 Series Embedded Digital Proportional Valve Amplifier and a Windows based PC. Included with the Cable Adaptor is a USB memory key containing Sun's Amplifier Set Up Software.

# **TECHNICAL DATA**

Supply Voltage	USB port powered		
Operating Temperature Range	-4 - 140 °F		
Cable Length	6 ft		

# **USED WITH**

7902B12A	7902B12V	7902B24A	7902B24V	7902C12V	7902C24V	7902D12A	7902D24A	7902D24V	7902E12V
7902E24V	7902F12V	7902F24V	7904A12A	7904A12V	7904A24A	7904A24V	7904E12V	7904E24V	7904F12V
7904F24V									

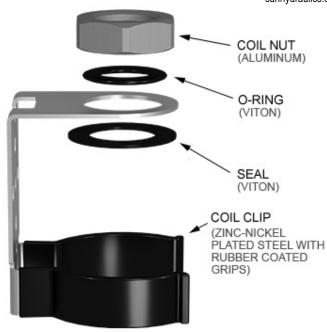
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This coil clip kit is designed to attach Sun's XMD Series Driver to the FLeX high-power coil.

**NOTES** 

The coil clip included in this kit can also be used to attach to 770 Series coils. For 770 Series coils, the coil nut, o-ring, and seal included in this kit are not needed. Purchase <u>753073</u> for coil clip by itself.

# **USED WITH**

XMD-01 XMD-02

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COIL NUT (ALUMINUM)

O-RING (VITON)

SEAL (VITON)

COIL CLIP (ZINC-NICKEL PLATED STEEL WITH RUBBER COATED GRIPS)

This coil clip kit is designed to attach Sun's XMD Series Driver to the FLeX low-power coil.

# **USED WITH**

991711300 991711600 991712300 991712600 991713030 991713060 XMD-01 XMD-02

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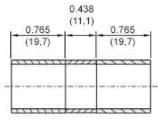
MODEL 991747



sunhydraulics.com/model/991747







in (mm)

This kit converts 770-series (19mm) coils to be compatible with 740-series (16mm) coil valves.

# **TECHNICAL DATA**

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This coil clip is designed to attach Sun's XMD Series Driver to the 770 Series coils. Because it is compatible with the existing 770 series nut, no additional hardware is required.

**NOTES** 

This coil clip attaches to both 740 Series high-power and 770 Series coils. For 740 Series high-power coil, purchase kit 991-740-001 which includes required coil nut, o-ring, and seal.

## **USED WITH**

770212	770214	770214N	770224	770224N	770228	770714	770724	770912	770914
770914N	770924	770924N	770928						

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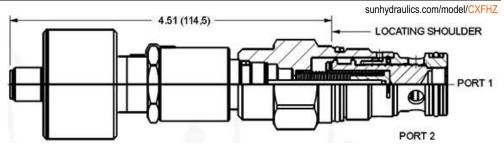
**MODEL** 

Free flow nose to side check valve with position switch

SERIES 2 / CAPACITY: 30 gpm / CAVITY: T-5A







Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

This valve incorporates a position switch to provide confirmation that the valve is in the transition position or seated (closed).

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

## **CONFIGURATION OPTIONS**

Model Code Example: CXFHZCN

**CRACKING PRESSURE** 

(C) SEAL MATERIAL

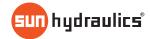
C 30 psi (2 bar)

N Buna-N

**A** 4 psi (0,3 bar)

**V** Viton

205 of 208 © 2023 Sun Hydraulics



MODEL CXHHZ

Free flow nose to side check valve with position switch

SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A



2

sunhydraulics.com/model/CXHHZ

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

This valve incorporates a position switch to provide confirmation that the valve is in the transition position or seated (closed).

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

**CONFIGURATION OPTIONS** 

Model Code Example: CXHHZCN

 CRACKING PRESSURE
 (C)
 SEAL MATERIAL
 (N)

 C 30 psi (2 bar)
 N Buna-N

 A 4 psi (0,3 bar)
 V Viton

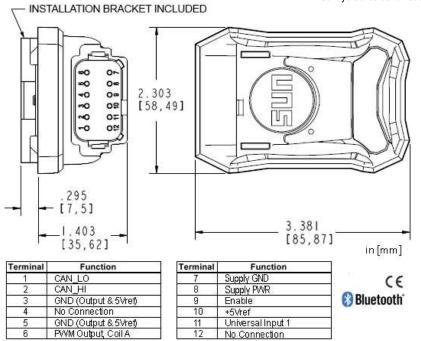
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The XMD module is an electro-hydraulic driver for use with mobile and industrial hydraulic equipment. It is configurable using Sun's free CANpoint XMD Configuration Software and a CAN-to-USB interface cable connected to a computer or via the XMD Mobile app. The XMD driver can control a variety of electrically operated hydraulic actuators used in applications for on- and off-highway equipment including but not limited to agriculture, forestry, construction, marine, earth moving, and material handling. Tuned for optimal flow and pressure control using Sun valves, the XMD driver delivers repeatable and reliable results for your demanding applications.

# **TECHNICAL DATA**

Supply Voltage	9-32 VDC
Number of Outputs	1
Output Current	0 to 3000 mA
Dither Frequency	33-500 Hz
Number of Universal Inputs	1
Input Range	0-5V, 0-10V, 4-20 mA, digital, pulse (60 Hz-10 kHz), PWM (60 Hz-10 kHz), resistive (0-100 k $\Omega$ )
Reference Voltage	5 Vdc, ±0.1 Vdc (250 mA max)
Operating Temperature Range	-40 - 85 °C
Vibration	33.3 Hz 6.8g Peak (Spec: S-367 Section 11.0)
Shock	49g Peak (Spec: S-367 Section 12.0)
U.S. Patent #	Pending

NOTES

Installation bracket and mounting hardware are included. Coil clips for high and low-power FLeX Series coils are sold separately.

#### **USED WITH**

991711300	991711600	991712300	991712600	991713030	991713060	991720300	991720600	991721300	991721600
991722	991723001	991723002	991728	991740001	991740002	991770001			

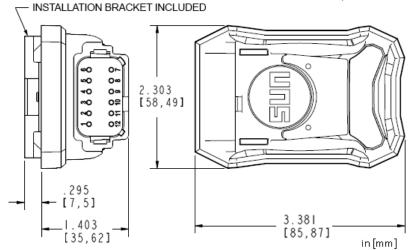
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Terminal	Function				
1	CAN_LO				
2	CAN_HI				
3	GND (Output & 5Vref)				
4	PWM Output, Coil B				
5	GND (Output & 5Vref)				
6	PMM Output Coil A				

Terminal	Function	
7	Supply GND	
8	Supply PWR	
9	Enable	→ 🐉 BI
10	+5Vref	
11	Universal Input 1	
12	Universal Input 2	

C € Bluetooth

The XMD module is an electro-hydraulic driver for use with mobile and industrial hydraulic equipment. It is configurable using Sun's free CANpoint XMD Configuration Software and a CAN-to-USB interface cable connected to a computer or via the XMD Mobile app. The XMD driver can control a variety of electrically operated hydraulic actuators used in applications for on- and off-highway equipment including but not limited to agriculture, forestry, construction, marine, earth moving, and material handling. Tuned for optimal flow and pressure control using Sun valves, the XMD driver delivers repeatable and reliable results for your demanding applications.

# **TECHNICAL DATA**

Supply Voltage	9-32 VDC				
Number of Outputs	2				
Output Current	0 to 3000 mA				
Dither Frequency	33-500 Hz				
Number of Universal Inputs	2				
Input Range	0-5V, 0-10V, 4-20 mA, digital, pulse (60 Hz-10 kHz), PWM (60 Hz-10 kHz), resistive (0-100 k $\Omega$ )				
Reference Voltage	5 Vdc, ±0.1 Vdc (250 mA max)				
Operating Temperature Range	-40 - 85 °C				
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**NOTES** 

Installation bracket and mounting hardware are included. Coil clips for high and low-power FLeX Series coils are sold separately.

#### **USED WITH**

991711300	991711600	991712300	991712600	991713030	991713060	991720300	991720600	991721300	991721600
991722	991723001	991723002	991728	991740001	991740002	991770001			

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