

General Description

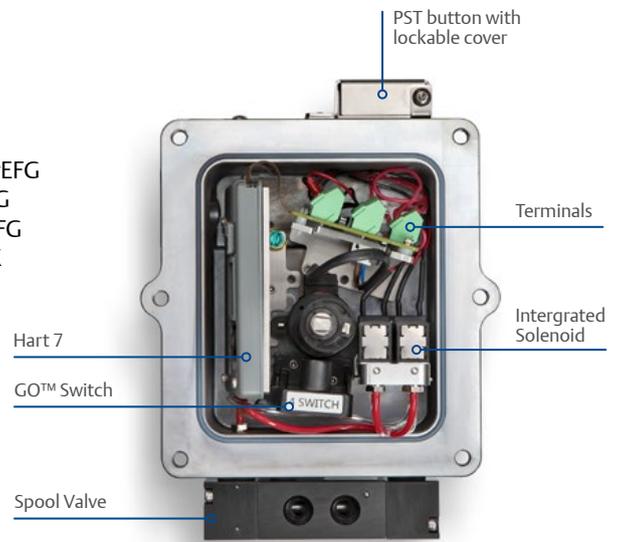
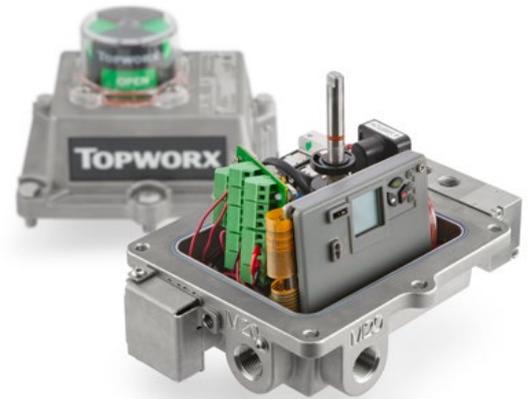
The TopWorx DX PST switchbox with HART® protocol is a reliable, user-friendly solution for performing Partial Stroke Test and Emergency Shut Down for critical applications. Units provide valuable valve data and diagnostic information, relaying feedback to Industrial Internet of Things (IIoT) systems via digital and analog signals. Expanded options for sensor redundancy up to 4 GO™ Switches and pilot redundancy up to 2 integrated pilots all protected within a single enclosure. Thanks to the integrated PST button, operators can test valves without any additional devices, simplifying maintenance.

Features & Benefits

- Remote real-time feedback with HART® 7: AMS interface with device status and expanded device variables.
- Local and remote calibration and activation.
- User-selectable alarms via the HART® protocol.
- Compatible with multiple distributed control systems and handheld devices.
- Capabilities include solenoid valve testing, emergency shutdown (ESD) detection, internal device temperature monitoring, local calibration and more.
- SIL3 capable.
- Single and dual solenoid control for integrated pilot valves and external solenoid valves: SOV in 1oo1, 1oo2 or 2oo2 architectures.
- Open terminal options, accommodating an additional pressure transmitter with two pressure switches.

Approvals

- UL (US and Canada):
UL22UKEX2360X, UL22UKEX2359X, UL22UKEX2361X
Intrinsically Safe: Class I, Zone 1, Div 1, GrABCD; Class II, Zone 21, Div 1, GrEFG
Explosion Proof: Class I, Zone 1, Div 1, GrCD; Class II, Zone 21, Div 1, GrEFG
Non-Incendive: Class I, Zone 2, Div 2, GrABCD; Class II, Zone 21, Div 2, GrFG
OrdLocTamb: -40C to 60C/80C; T6/T4 (50C if PST button fitted) Type 4/4X
- ATEX/IECEX:
DEMKO20ATEX2314X/IECEX UL 20.0070X,
DEMKO19ATEX2321X/IECEX UL 19.0090X,
DEMKO20ATEX2388X/IECEX UL 19.0090X
Ex ia IIC T6/T4 Gb; Ex ia IIIC T85/T135C Db
Ex db IIC T6/T4 Gb; Ex tb IIIC T85/T135C Db (Serrated flange)
Ex db IIB+H2 T6/T4 Gb; Ex tb IIIC T85/T135C Db (Flat flange)
Ex nA nC IIC T6/T4 Gc; Ex tb IIIC T85/T135C Dc
T_{amb}: -50C to 60C/80C; T6/T4 (All classifications);
-60C (DXS for Ex db); -60C (Gas groups for Ex ia)
- IP 66/67
- RoHS Compliant
- NE43 Compliant
- SIL 3 Capable



Specifications

Operating Specifications		DX PST
Certifications		Intrinsically Safe, Explosion/Flame-proof and General Purpose
Environmental Ratings		IP66, IP67, UL Type 4/4X
Shaft Rotation		20° to 90° (Consult Factory for Additional Shaft Rotation Sensing)
Hysteresis		0.5%
Repeatability		0.5%
Linearity		¼ Turn, 1% of span
Temperature Range	Without internal solenoids and local PST Switch	-40°C to +80°C (-40°F to +176°F)
	With internal solenoids	-10°C to +60°C (+14°F to +140°F)
	Without local PST Switch	-20°C to +50°C (-4°F to +122°F)
Terminal Connection		26 to 14 AWG
Pneumatic Connection		1/4" NPT (1.06Cv), 1/2" NPT (3.7Cv)
Display Type		Liquid Crystal Display (LCD)
Local Controls		Push Buttons
Valve Action		Double, Direct (DA) & Reverse (RA)
Seals		Silicone, Buna
4-20mA/ HART Terminal Voltage		Min: 10 VDC, Max: 33 VDC
Pilot/SOV 1 & Pilot/SOV 2		Min: 22 VDC, Max: 26.4 VDC, 28W
Internal Temperature Sensor Accuracy		± 2.5 °C
Analog Position		0 to 100%
High (H) Alarm		22.3mA
Low (L) Alarm		< 3.5mA
Multi-Drop Current Draw		4.0mA
Resistance		100K Ohms
Safety Integrity Level		3

Ordering Information

Nomenclature guide below. Choose codes for desired features. Not all feature combinations are compatible. Please consult TopWorx or Online “Configure Your Product” guide at www.topworx.com for confirmation.

Codification

DXS - SS 1 G N 3 S D A 2 T

Enclosure

DXS 316 Stainless Steel
DXP Tropicalized Aluminum

Bus Sensor

SH D2-ESD (Two Limit Switches)
SS D2-ESD (Four Limit Switches)

Area Classification

0 Intrinsically Safe
1 Explosion Proof/ Flameproof
2 Non-Incedive
G General Purpose -US/Canada
C Flameproof
W No Approvals

Visual Display

G Standard 90° - Green OPEN, Red CLOSED
R Standard 90° - Green CLOSED, Red OPEN
M 90° - Black OPEN, Yellow CLOSED
Y 90° - Yellow OPEN, Black CLOSED
S Stainless Steel 90°
1 3 way, 90°
L Port

3 3 way, 90°
T Port

5 3 way, 90°
T Port

7 3 way, 180°
T Port 3 position

9 3 way, 180°
T Port 3 position


Manual Override

T Partial Stroke Test Button with Lockable Cover

Valve Cv

2 1.06 Cv (1/4" NPT Ports)
3 3.7 Cv (1/2" NPT Ports)

Spool Valve

A Aluminum
6 Stainless Steel

Pilot

1 (1) 24V Pilot 0.5W (non IS and IS)
ESD - Fail Open/Closed
D (2) 24V Pilots 0.5W (non IS and IS)
ESD - Fail Open/Closed

O-Rings

S Silicone

Conduit Entry

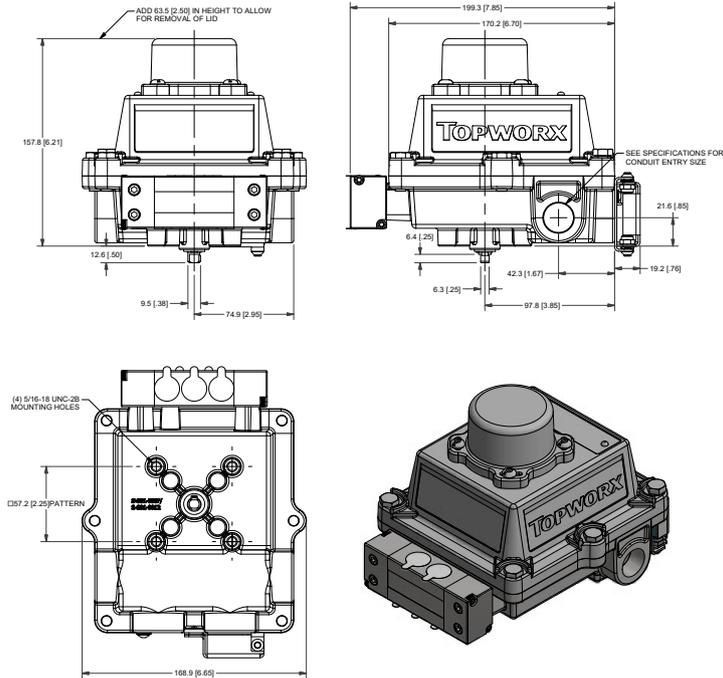
E (2) 3/4" NPT
4 (2) 3/4" NPT
(2) 1/2" NPT
M (2) M20
3 (4) M20
6 (4) 3/4" NPT

Shaft

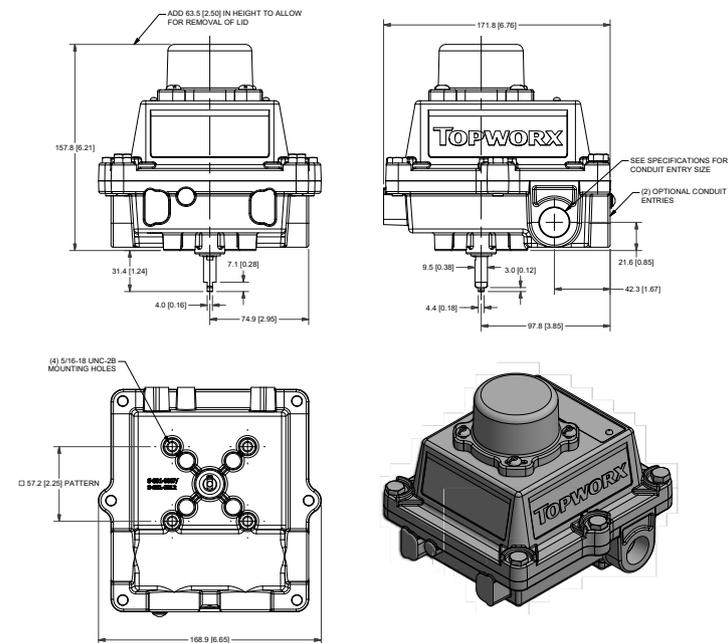
N NAMUR
316 Stainless Steel
S 1/4" DD
316 Stainless Steel

Dimensions in mm [in]

With Integrated Valve



Without Integrated Valve



TWMD0002-R0