

EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

An EPIC performance in every condition. The Digital EPIC D200 serves a wide range of applications for any environment. A valve position transmitter with available switch options, offering industry leading linearity and hysteresis. The D200 features accurate position measurement with digital communication via HART® protocol in a simple integrated package.



Model				
No	Falcon V	Materials	Agency approvals ^{[1][2]}	
Solenoid	Solenoid			
D241 D251	D230 D240 D250	Engineered Resin Low copper content Aluminum 316 Stainless Steel	North America: IS Cl. I, II, III, Div. 1, Grps ABCDEFG, Cl. III; T6; Type 4X NI Cl. I, Div. 2, Grps ABCD, T6; Type 4X ATEX/IECEx/INMETRO: II *GD Ex ia II* T* G* Ex tb IIIC T135°C Db IP6X Tamb: -*°C to +*°C	
D261 D271	D260 D270	Low copper content Aluminum 316 Stainless Steel	North America: Cl. I, Div. 1, Grps ABCD; Cl. II & III, Div. 1 Grps EFG NI Cl. I, Div. 2, Grps ABCD ATEX/IECEx/INMETRO: II 2GD Ex db IIC T* Gb Tamb: -60°C to +*°C Ex tb IIIC T*°C Db Tamb: -60°C to +*°C IP6X	
D281 D291	D280 D290	Low copper content Aluminum 316 Stainless Steel	North America: Cl. I, Div. 1, Grps CD; T* Cl. II Div. 1, Grps EFG; T* Cl. I, Zone 1 AEx db/Ex db IIB+H2 T* Zone 21, AEx tb/Ex tb IIIC T* Db IP6X NI Cl. 1 Div. 2, Grps ABCD; T* Type 4/4X, IP66/67 Ta= -*°C to +*°C ATEX/IECEX/INMETRO: II 2GD Ex db IIB+H2 T*, Gb Tamb: -*°C to +*°C Ex tb III C T* Db Tamb: -*°C to +*°C IP6X	

FEATURES AND BENEFITS

- High visibility Beacon
- Simple push button calibration makes commissioning easy
- Clear LCD display showing position and status for ease of reading feedback data
- Standard non contact position sensor for greater reliability
- High update rate of feedback signal for increased accuracy
- HART® 7 Protocol for use with the latest systems
- EEDDL/FDT® DTM
- Offers diagnostics, position and cycle count to enable customer planned maintenance
- Option to include end of travel switches giving more versatility
- Global certification for hazardous areas covers more applications worldwide
- NAMUR mount pattern for standard brackets
- User interface with digital display acessible from all sides
- Available with an integral Falcon V solenoid

GENERAL APPLICATION

The Digital EPIC D200 digital feedback transmitter is a modular 4-20 mA loop current device that can be combined with switch options, standard HART® 7 protocol, and incorporated into the established range of Westlock designed and proven monitors.

Certified for use under US/CA standards and ATEX/IEC standards.

Approval Notes:

^[1]This information can change dependent on the construction, refer to the product certification. ^[2]For T-Class/Ambient range, refer to the product certification.

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OVERVIEW

The innovative Digital EPIC D200 transmitter is a step above the competition offering a wide range of user benefits, including improved linearity, reduced hysteresis (position accuracy), and improved repeatability. The Digital EPIC D200 is engineered to have greater control over wider ranges of temperature and hazardous applications compared to the competition. The D200 offers a clear LCD screen for calibration, and LED's to provide local visibility to position and system statuses including HART® 7 protocol connectivity. Auto-calibration feature reduces installation time by 80% making Digital EPIC D200 the smartest choice for users. Switch box feedback options are available to accommodate our current Westlock portfolio.



TECHNICAL DATA

Standard non-contact sensor	
Average position repeatability	0.5% full scale
Average hysteresis	1% of full scale
Position resolution	0.5% full scale
Average linearity	0.5%
Min/Max rotation	30° - 270°
Potentiometer Option	
Average position repeatability	0.5% full scale
Average hysteresis	1% of full scale
Aveage position resolution	0.5% full scale
Average linearity	0.5%
Operating temperature range	-40°C to +80°C
Ambient temperature	-40°C to +80°C
Min/Max rotation	30° - 200°
Transmitter update rate	100 ms (HART)

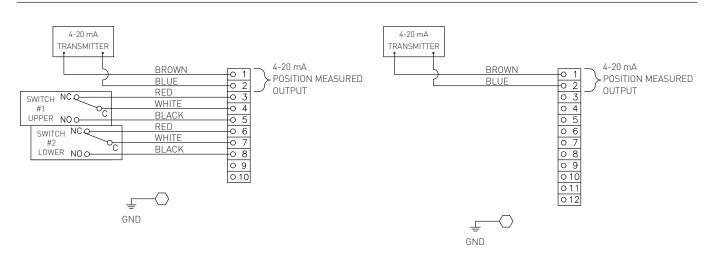
Intrinsically safe parameters (EPIC Transmitter Module Only)

Intrinsically safe parameters for loop output connector J1 pins 1, 2 Entity parameters

Ui = 30 V Ii = 100 mA Pi = 750 mW Ci = 5 nF

Li = 10 uH

TYPICAL WIRING DIAGRAM



NOTE

- 1. For coil and switch options, please see product ID label.
- 2. See control drawing WD-12410 for switch transmitter and component entity parameters.
- 3. For switch option entity parameters, see page 4.

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SETUP, OPTIONS AND RATINGS

Setup, calibration and operation

 ${\sf HART}^{\tt @}\,{\sf DD}\,{\sf or}\,{\sf FDT}^{\tt @}\,{\sf DTM}\,{\sf can}\,{\sf be}\,{\sf used}\,{\sf to}\,{\sf configure},\,{\sf calibrate}\,{\sf and}\,{\sf perform}\,{\sf advanced}\,{\sf diagnostics}$

functions on the device.

Graphic LCD:

LCD operating temperature: -20°C to +70°C (-4°F to +158°F)

Keypad for local configuration:

2-key ruggedized push-button membrane

Environmental

Storage: -60°C to +80°C (-76°F to +176°F) Relative Humidity: 0 to 95% non-condensed

Vibration: 2 g, 10 Hz to 1000Hz

Shock: 18 g, 3 axis, 100 bumps each axis

References: IEC61514-2, IEC 60068-2-29/27, IEC 61298-3, IEC 60068-2-1/2

COMMUNICATION

HART® version: 7

PV: Actual position in % FS

SV: Temperature

Polarity insensitive, two wire 4-20 mA, Namur NE43 Normal operation: adjustable $3.8 \le I \le 20.5$ mA

Fixed calibration current: 12 mA

Loop current test functions: 4 mA, 12 mA, 20 mA or custom

Minimum operating voltage: 9 VDC - 30 VDC Maximum operating voltage: 35 VDC

SWITCHES AND SENSORS

Westlock's control and monitoring equipment can be fitted with a variety of switches and sensors to provide the optimum combination and ideal solution for each application. See ordering guide for available switch options.

AVAILABLE SWITCH OPTIONS

Magnum XT-90 Hermetically sealed proximity switch

Hermetically-sealed proximity switches with either pure tungsten or rhodium contacts for use with low power I/O's to provide longer contact life.

MAGNUM XT-90 HERMETICALLY SEALED PROXIMITY SWITCH

Contact arrangement	SPDT, Form C (normally open)
Contacts	Pure tungsten or rhodium
Operating time	3.0 ms
Initial Contact resistance	0.50 ohms (max.) tungsten
	0.10 ohms (max.) rhodium
Entity parameters	Ui = 30 V, li = 100 mA, Pi = 1 W, Ci = 10 nF, Li = 10 μ
Seal	Hermetic
Housing (flame retardant)	High impact PBT
Electrical rating	
Rhodium (low power, below 1 watt)	SPDT Form C (normally open) 0.2 A / 120 VAC,
	1 A / 24 VDC
Tungsten (high power, above 1 watt)	SPDT Form C (normally open)
	3 A / 120 VAC,

2 A / 24 VDC



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AVAILABLE SWITCH OPTIONS (CONTINUED)

P+F NJ2-V3-N inductive proximity sensor Intrinsically safe

A solid state inductive proximity sensor which is available in NAMUR output. It is ideal for use in devices within potentially explosive atmospheres.

P+F NJ2-V3-N

Sensing range	2 mm
Electrical version	DC voltage 2 wire in accordance with EN 60947-5-6 (NAMUR)
Hysteresis	3-15% (5% typical)
Switching frequency	1 kHz
Input voltage range	5-25 VDC
Output/current consumption	Cam trigger present ≤ 1 mA
	Cam trigger absent ≥ 3 mA (15 mA max)
Entity Parameters	Consult manufacturer's component certificate for entity parameters



SPDT mechanical switch V3

A V3 SPDT (single pole double throw) mechanical switch (Form C) with gold plate contacts.

SPDT MECHANICAL SWITCH V3

Electrical rating

Contact arrangement SPDT, Form C (normally open)

15 A / 125/250 VAC 6 A / 24 VDC

Hysteresis 3°

Entity Parameters Ui = 30 V, li = 100 mA, Pi = 1 W, Ci = 10 nF, Li = 10μ



DPDT mechanical switch (Licon)

A Form CC DPDT (double pole double throw) mechanical switch with silver-plated contacts.

DPDT MECHANICAL SWITCH

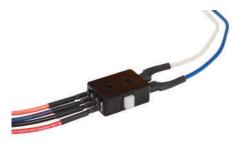
Electrical rating

Contact arrangement DPDT (Form CC)

10 A / 125/250 VAC 10 A / 24 VDC

Hysteresis 20°

Note: DPDT mechanical switches are available in the explosionproof/flameproof models. See ordering guide for complete set of options available.

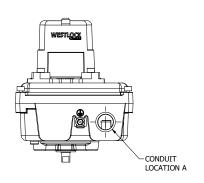


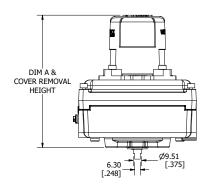
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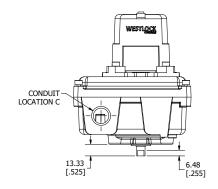
D241 / D251

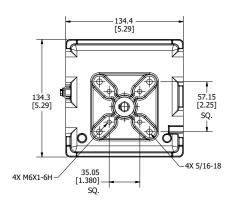
$Intrinsically \ safe - NEC/CEC/ATEX/IEC - Intrinsically \ Safe/Non-Incendive - NEC/CEC$

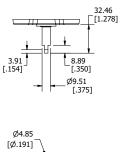
DIMENSIONS mm (in)











3.99 SHAFT DETAIL NAMUR OUTPUT

HOUSING DIMENSIONS

Base model	Dim. A	Cover removal height		
D241	151.9 [5.98]	237.3 [9.34]		
D251	153.2 [6.03]	237.0 [9.33]		

TECHNICAL SPECIFICATIONS

Materials of Construction

Enclosure D241: Aluminum with black polyester powder coat finish

D251: Stainless Steel with electro-polished Finish

Shaft and hardware Stainless steel

Bushing Nylon, D241 Bronze Bearing

Beacon visual indicator Co-polyester

Drive shaft

Westlock standard Double-D with 1/4" A/F

NAMUR standard with VDI/VDE 3845

Mounting pattern $\frac{5}{16}$ – 18 UNC and M6 x 1.0

Available switches

 $\label{thm:magnum} \mbox{Magnum, SPDT hermetically sealed switches, with rhodium contacts}$

Pepperl + Fuchs NJ2-V3-N inductive proximity sensor

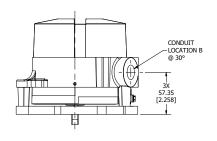
SPDT mechanical switches, with gold-plated contacts

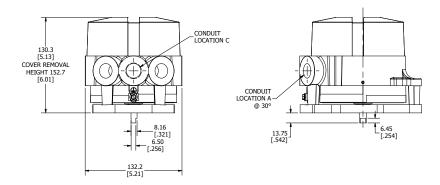
EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

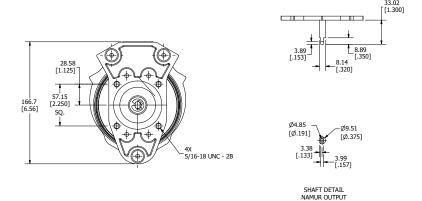
D261 / D271

Explosionproof / Flameproof - NEC/CEC/ATEX/IEC

DIMENSIONS mm (in)







TECHNICAL SPECIFICATIONS

Materials of Construction

Enclosure D261 Aluminum with black polyester powder coat finish

D271 Stainless steel with electro-polished finish

Shaft and hardware

Bushing

Oil impregnated bronze

Beacon visual indicator

Co-polyester

Drive shaft

Westlock standard

Double-D with 1/4" A/F

NAMUR standard complies with VDI/VDE 3845

Mounting pattern 5/16 – 18 UNC

Available switches

Magnum, SPDT hermetically sealed switches, with tungsten contacts Magnum, SPDT hermetically sealed switches, with rhodium contacts

Pepperl + Fuchs model NJ2-V3-N

SPDT mechanical switches, with gold-plated contacts

DPDT (Form CC) mechanical switches

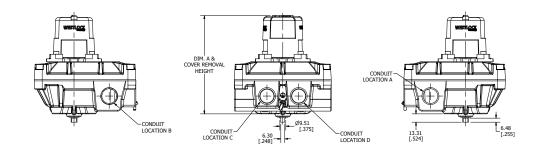
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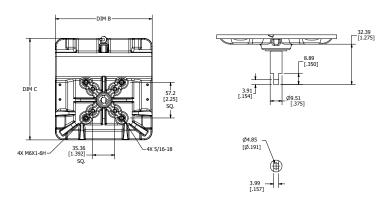
EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

D281 /D291

Explosionproof / Flameproof - NEC/CEC/ATEX/IEC

DIMENSIONS mm (in)





HOUSING DIMENSIONS

TO CONTO DI ILITOICIO					
Base model	Cover type	Dim. A	Cover removal height		
D281	Hi cover	211.1 [8.31]	332.3 [13.08]		
D281	Std. cover	157.8 [6.21]	247.2 [9.73]		
D281	Flat cover	88.4 [3.48]	111.3 [4.38]		
D291	Hi cover	211.1 [8.31]	332.3 [13.08]		
D291	Std. cover	157.8 [6.21]	247.2 [9.73]		
D291	Flat cover	88.4 [3.48]	111.3 [4.38]		

TECHNICAL SPECIFICATIONS

Materials of Construction

Enclosure D281 Aluminum with black polyester powder coat finish

D291 Stainless steel with electro-polished finish

Shaft and hardwareStainless steelBushingOit impregnated bronzeBeacon visual indicatorCo-polyesterDrive shaftWestlock standardDouble-D with 1/4" A/FNAMUR standardNAMUR standard complies with VDI/VDE 3845Mounting pattern5/16 - 18 UNC and M6 x 1.0

Available switches

Available switches

Magnum, SPDT hermetically sealed switches, with tungsten contacts

Magnum, SPDT hermetically sealed switches, with rhodium contacts

Pepperl + Fuchs model NJ2-V3-N

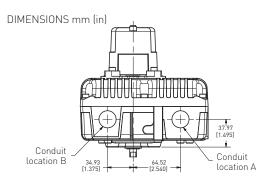
V3 SPDT mechanical switches, with gold plated contacts

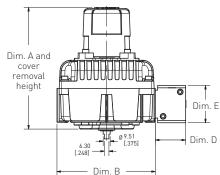
DPDT (Form CC) mechanical switches

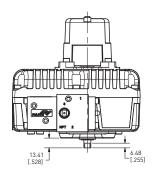
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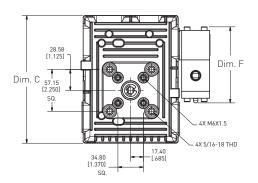
D230 / D240 / D250

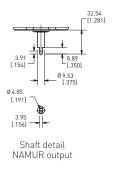
Intrinsically safe - NEC/CEC/ATEX/IEC











HOUSING DIMENSIONS

Base model	Dim. A	Cover removal height	Dim. B	Dim.C
D230	166.1 [6.54]	258.6 [10.18]	134.6 [5.30]	175.3 [6.90]
D240	165.1 [6.50]	257.6 [10.14]	147.3 [5.80]	180.3 [7.10]
D250	165.1 [6.50]	257.6 [10.14]	147.3 [5.80]	180.3 [7.10]

SOLENOID VALVE DIMENSIONS

SOLENOID VALVE DIMENSIONS			
Solenoid valve option	Dim. D	Dim. E	Dim. F
1.4 C _v , 3-Way, Brass/Aluminum/316 SS	41.4 [1.53]	50.8 [2.00]	103.8 [4.09]
4.3 C _v , 3-Way, Aluminum	58.7 [2.31]	57.2 [2.25]	179.9 [7.08]
1.4 C _v , Dual Coil, Brass/Aluminum/316 SS	54.1 [2.13]	50.8 [2.00]	153.7 [6.05]
4.3 C _v , Dual Coil, Aluminum	58.7 [2.31]	57.2 [2.25]	219.5 [8.64]
1.4 C _v , 4-Way, Brass/Aluminum/316 SS	41.4 [1.53]	50.8 [2.00]	124.5 [4.90]
3.5 C _v 4-Way, 316 SS	47.5 [1.87]	69.9 [2.75]	166.6 [6.56]
4.3 C _v , 4-Way, Aluminum	58.7 [2.31]	57.2 [2.25]	179.9 [7.08]

TECHNICAL SPECIFICATIONS

Materials of Construction

Materials of Construction	
Enclosure	D230 Engineered polyamide resin
	D240 Aluminum with black polyester powder coat finish
	D250 Stainless steel with electro-polished finish
Shaft and hardware	Stainless steel
Bushing	D230/D250 Nylon bearing, D240 Bronze bearing
Beacon visual indicator	Co-polyester
Drive shaft	
Westlock standard	Double-D with 1/4" A/F
NAMUR standard	NAMUR standard with VDI/VDE 3845
Mounting pattern	⁵ / ₁₆ – 18 UNC and M6 x 1.0
Available switches	

Magnum, SPDT hermetically sealed switches, with rhodium contacts

Pepperl + Fuchs NJ2-V3-N inductive proximity sensor

V3 SPDT mechanical switches, with gold-plated contacts

SOLENOID VALVES

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and $C_{\rm V}$ to best suit your application. See the Falcon date sheet for more information.

 $\label{eq:Note: 4.3 C_v solenoid valve is available in aluminum only.}$

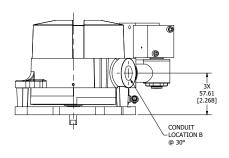
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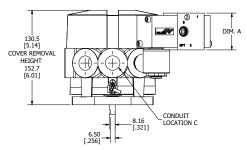
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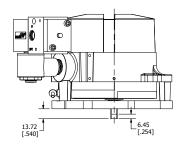
D260 / D270

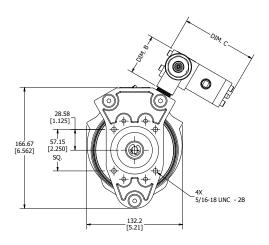
Explosionproof / Flameproof - NEC/CEC/ATEX/IEC

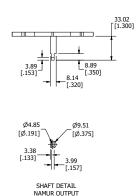
DIMENSIONS mm (in)











SOLENOID VALVE DIMENSIONS

Solenoid valve option	Dim. A	Dim. B	Dim. C
1.4 C _v , 3-Way, Brass/Aluminum/316 SS	50.8 [2.00]	55.8 [2.20]	103.8 [4.09]
4.3 C _v , 3-Way, Aluminum	57.2 [2.25]	60.5 [2.38]	179.9 [7.08]
1.4 C _v , 4-Way, Brass/Aluminum/316 SS	50.8 [2.00]	55.8 [2.20]	124.5 [4.90]
4.3 C _v , 4-Way, Aluminum	57.2 [2.25]	60.5 [2.38]	179.9 [7.08]

TECHNICAL SPECIFICATIONS

Materials of Construction

Enclosure D260 Aluminum with black polyester powder coat finish D270 Stainless steel with electro-polished finish Shaft and hardware Stainless steel Bushing Oil impregnated bronze Beacon visual indicator Co-polyester Drive shaft Westlock standard Double-D with 1/4" A/F NAMUR standard NAMUR standard complies with VDI/VDE 3845 5/16 - 18 UNC Mounting pattern

Available switchesMagnum, SPDT hermetically sealed switches, with tungsten contacts
Magnum, SPDT hermetically sealed switches, with rhodium contacts

Pepperl + Fuchs model NJ2-V3-N

V3 SPDT mechanical switches, with gold plated contacts

DPDT (Form CC) mechanical switches

SOLENOID VALVES

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and $C_{\rm V}$ to best suit your application. See the Falcon date sheet for more information.

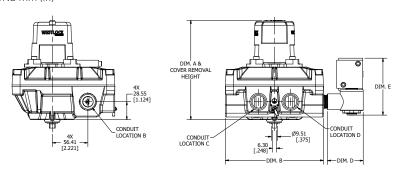
Note: $4.3 \, C_V$ solenoid is available in aluminum only.

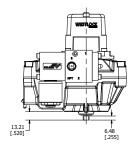
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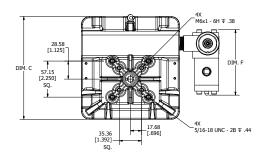
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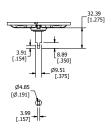
D280 / D290 - NEC/ATEX/IEC

DIMENSIONS mm (in)









HOUSING DIMENSIONS

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Base model	Cover type	Dim. A	Cover removal height		
D281	Hi cover	211.1 [8.31]	332.3 [13.08]		
D281	Std. cover	157.8 [6.21]	247.2 [9.73]		
D281	Flat cover	88.4 [3.48]	111.3 [4.38]		
D291	Hi cover	211.1 [8.31]	332.3 [13.08]		
D291	Std. cover	157.8 [6.21]	247.2 [9.73]		
D291	Flat cover	88.4 [3.48]	111.3 [4.38]		

SOLENOID VALVE DIMENSIONS

Solenoid valve option	Dim. D	Dim. E	Dim. F
1.4 C _v , 3-Way, Brass/Aluminum/316 SS	56.7 [2.24]	90.2 [3.56]	103.9 [4.09]
1.4 C _v , 4-Way, Brass/Aluminum/316 SS	56.7 [2.24]	90.2 [3.56]	124.6 [4.91]

TECHNICAL SPECIFICATIONS

Materials	of C	Consti	ruction
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Enclosure	D280 Aluminum with black polyester powder coat finish	
	D290 Stainless steel with electro-polished finish	
Shaft and hardware	Stainless steel	
Bushing	Oil impregnated bronze	
Beacon visual indicator	Co-polyester	
Drive shaft		
Westlock standard	Double-D with 1/4" A/F	
Option	NAMUR standard VDI/VDE 3845	

Available switches

Magnum (hermetically sealed proximity type) with tungsten contacts Magnum (hermetically sealed proximity type) with rhodium contacts V3 SPDT mechanical switches, with gold plated contacts

DPDT (Form CC) mechanical switches

Pepperl + Fuchs model NJ2-V3-N

SOLENOID VALVES

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and C_{ν} to best suit your application. See the Falcon date sheet for more information.

Note: $4.3 \, C_v$ solenoid valve is available in aluminum only.

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EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

FALCON V FEATURES

The Falcon V is engineered specifically to address low power valve actuation requirements in hazardous locations.

- Available in 3 and 4 way anodized aluminum (all wetted parts), nickel-plated brass with stainless steel internals and 316 SS (all wetted parts)
- \bullet Larger 4.3 C_{ν} valve body available in Aluminum with ½" NPT ports
- Viton seals as standard (1.4 C_v and 4.3 C_v only)
- Internal venting design as standard
- \bullet Increased C_v of the standard valve body (1.4 C_v) of the standard of a wider range of actuators and reduces stock requirements
- Reduced pilot pressure coil allows use on low supply pressure without external pilot
- Anti-extrusion seal design
- Common global porting system and location allows all Westlock brands for ease of automation (model in ISO view)
- Spool indicator design protects the indicator from incidental contact damage
- 5cc or less air leakage at steady state reduces losses
- Standard valve temperature range -20°C to +85°C (-4°F to +185°F)
- Extended low temp -40°C (-40°F) seal optional
- Suitable for high cycle applications

FALCON V STANDARD SPECIFICATION

	Falcon V	Falcon
Materials	Anodized aluminum (4.3 C_{ν} only), nickel plated brass	Available in stainless steel
Valve flow rates	1.4 C _v , 4.3 C _v	3.5 C _v
Standard coil voltage	24 VDC, 1.8 watt	24 VDC, 1.8 watt
	110/120 VAC, 1.8 watt	110/120 VAC, 1.8 watt
Valve port tapping	$1.4~C_{v}$ – $1/4$ " NPT air ports for intlet, outlet and exhaust	$3.5\ C_{v}$ - $1/2"$ NPT air ports for inlet, outlet and exhaust
	$4.3 \text{C}_{\text{V}} - \frac{1}{2}$ " NPT air ports for inlet, outlet and exhaust	

FALCON V TECHNICAL DATA

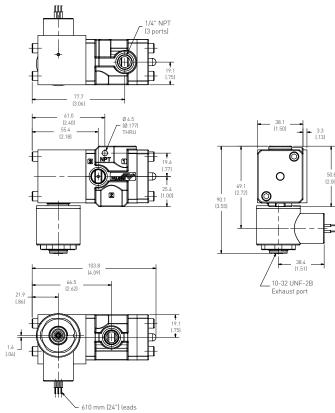
	Falcon V $(1.4 C_v / 4.3 C_v)$	Falcon
Operating pressure	30 – 120 psi (2.1 – 8.3 bar)	45 - 120 psi (3.1 - 8.3 bar)
Operating temperature	Standard: -20°C to +85°C (-4°F to +185°F)	-20°C to +65°C (-4°F to +149°F)
	Optional: -40°C to +85°C (-40°F to +185°F)	-20°C to +82°C (-4°F to +180°F)
Operating media	Filtered air to 20 microns	Filtered air to 20 microns

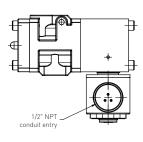
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EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

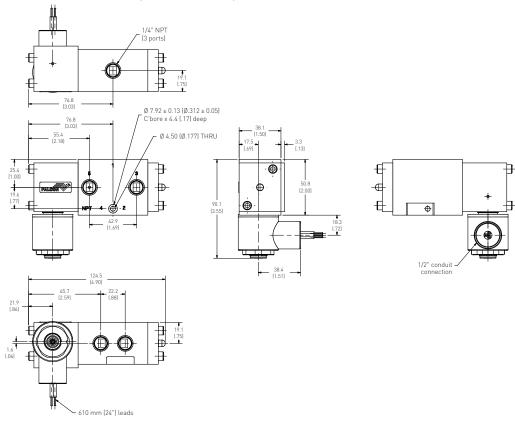
FALCON V SOLENOID VALVE

FALCON 3-WAY SOLENOID VALVE





FALCON 4-WAY SOLENOID VALVE (SHOWN WITH COIL)



EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE - SELECTION GUIDE NO SOLENOID VALVE

Base Model D241 Intrinsically Safe/Non-Incendive - Aluminum encl., (2) conduits, 12 pt. terminal strip D251 Intrinsically Safe/Non-Incendive - 316 Stainless Steel encl., (2) conduits, 12 pt. terminal strip D261 Explosionproof / Flameproof - Screw-on cover, Aluminum encl., (2) conduits, 10 pt. terminal strip Explosionproof / Flameproof - Screw-on cover, 316 Stainless Steel encl., (2) conduits, 10 pt. terminal strip D281 Explosionproof / Flameproof - Bolted cover, Aluminum encl., (2) conduits, 12 pt. terminal strip (exceptions noted in switch options) D291 Explosionproof / Flameproof - Bolted cover, 316 Stainless Steel encl., (2) conduits, 12 pt. terminal strip (exceptions noted in switch options) Continuous Rotary Position Sensing Option with Shaft Option NP Potentiometer/NAMUR Output Shaft NT Non-Contact Sensor/NAMUR Output Shaft SP Potentiometer/Standard Output Shaft ST Non-Contact Sensor/Standard Output Shaft **End-of-Travel Feedback Switch Option** 0000 No end-of-travel confirmation required (2) DPDT mechanical switches, (3) conduits w/14pt. Terminal Strip (D261/D271) or (4) conduits w/16 pt. Terminal Strip (D281/D291 standard) -2M04 D261/D271/D281/D291 only 2M06 (2) SPDT Magnum XT-90 proximity switches* - D261/D271/D281/D291 Only 2M08 (2) P&F NJ2-V3-N inductive proximity sensors 2M09 [2] SPDT mechanical switches with gold contacts (requires suitable barrier for Div. 2 installation) 2M12 (2) SPDT Magnum XT-90 proximity switches with rhodium contacts* 4M06 (4) SPDT Magnum XT-90 proximity switches*, (4) conduits, high cover, 16 pt. terminal strip - D281/D291 Only 4M08 (4) NJ2-V3-N inductive proximity sensors, (4) conduits, high cover, 16 pt. terminal strip - D281/D291 only 4M09 (4) SPDT mechanical switches, (4) conduits, high cover, 16 pt. terminal strip (requires suitable barrier for Div. 2 installation) -D281/D291 Only 4M12 (4) SPDT Magnum XT-90 proximity switches*, (4) conduits, high cover, 16 pt. terminal strip - D281/D291 Only Westlock Signature Beacon BY Black Open/Yellow Closed RG Green Open/Red Closed FE French/English BY LP Low-Profile Black BY B1 3-Way 90° B1 Flow Path B3 3-Way 90° B3 Flow Path B5 3-Way 90° B5 Flow Path B7 3-Way 90° B7 Flow Path B9 3-Way 90° B9 Flow Path FC Flat Cover (no beacon) **Approval Options** NEC/ATEX/IEC Intrinsically Safe (IS) and NEC Nonincendive (NI)- **D241, D251 Only** NEC/ATEX/IEC Explosionproof/Flameproof and NEC Nonincendive (NI)- **D261, D271, D281, D291 Only** INMETRO Intrinsically Safe (IS) - **D241, D251 Only** INMETRO Explosionproof/Flameproof - **D261, D271, D281, D291 Only Conduit Options** 2 M20 (Quantity based on switch options) 3 3/4" NPT (Quantity based on switch options)

*Magnum Proximity Switch Application Note:

4M02

D281

NP

For 24 VDC **service below 1 Watt**, M12 (Rhodium Magnum) is recommended

EX

RG

For 24 VDC service above 1 Watt, M06 (Tungsten Magnum) is recommended

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= Model Number D281NP4M02RGEX2

OG10013-CrA

EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE - SELECTION GUIDE WITH SOLENOID VALVE

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Base Model
D230 Intrinsically Safe/Non-Incendive - Resin encl., (2) conduits, clear cover, 12 pt. terminal strip, Falcon interface
D240 Intrinsically Safe/Non-Incendive - Aluminum encl., (2) conduits, 12 pt. terminal strip, Falcon interface
D250 Intrinsically Safe/Non-Incendive - 316 stainless steel encl., (2) conduits, 12 pt. terminal strip, Falcon interface
D260 Explosionproof /Flameproof - Screw-on cover, aluminum encl., (2) conduits and (1) male fitting, 14 pt. terminal strip
D270 Explosionproof / Flameproof - Screw-on cover, 316 stainless steel encl., (2) conduits and (1) male fitting, 14 pt. terminal strip
D280 Explosionproof / Flameproof - Bolted cover, aluminum encl., (3) conduits**** and (1) male fitting, 16 pt. terminal strip (exceptions noted in switch options)
D290 Explosionproof / Flameproof - Bolted cover, 316 stainless steel encl., (3) conduits**** and (1) male fitting, 16 pt. terminal strip (exceptions noted in switch options)
          Continuous Rotary Position Sensing Option with Shaft Option
          NP Potentiometer/NAMUR Output Shaft
          NT Non-Contact Sensor/NAMUR Output Shaft
          SP Potentiometer/Standard Output Shaft
          ST Non-Contact Sensor/Standard Output Shaft
                  End-of-Travel Feedback Switch Option
                  2M04 (2) DPDT mechanical switches - D280/D290 Only
                  2M06 (2) SPDT Magnum XT-90 proximity switches* - D260/D270/D280/D290 Only
                  2M08 [2] P&F NJ2-V3-N inductive proximity sensors
                  2M09 (2) SPDT mechanical switches with gold contacts (require suitable barrier for Div. 2 installation)
                  2M12 (2) SPDT Magnum XT-90 proximity switches with rhodium contacts
                  4M06 (4) SPDT Magnum XT-90 proximity switches, high cover - D280/D290 Only
                  4M08 (4) NJ2-V3-N inductive proximity sensors, high cover - D280/D290 Only
                   4M09 (4) SPDT mechanical switches with gold contacts, high cover - D280/D290 Only
                  4M12 (4) SPDT Magnum XT-90 proximity switches, rhodium contacts, high cover - D280/D290 Only
                             Westlock Signature Beacon
                             BY Black Open/Yellow Closed
                             RG Green Open/Red Closed
                             FF French/English BY
                             LP Low-Profile BY
                             B1 3-Way 90° B1 Flow Path
                             B3 3-Way 90° B3 Flow Path
                             B5 3-Way 90° B5 Flow Path
                             B7 3-Way 90° B7 Flow Path
                             B9 3-Way 90° B9 Flow Path
                             FC Flat Cover (no beacon)
                                     Coil Voltage/Type
                                          24 VDC Dual-certified IS/NI (Optional for D230, D240, D250 Only); entity Vmax=35V, Imax=300mA, Pmax=2.98W, Li=0mH, Ci=0uF
                                          24 VDC Explosionproof, 1.8W, Potted Hub (D260, D270, D280, D290 Only)
                                          120 VAC Explosionproof, 3.2 VA, Potted Hub (D260, D270, D280, D290 Only)
                                             Falcon Valve Body
                                                                                                    2V7 1.4Cv, 4-Way, Brass
                                             2V3 1.4Cv, 3-Way, Brass
                                             3V3 1.4Cv, 3-Way, Aluminum
                                                                                                    3V7 1.4Cv, 4-Way, Aluminum
                                             5V3 1.4Cv, 3-Way, 316 SS
                                                                                                    5V7
                                                                                                         1.4Cv, 4-Way, 316 SS
                                             3V4 4.3Cv, 3-Way, Aluminum***,**
                                                                                                   3V8 4.3Cv, 4-Way, Aluminum **
                                             540 3.5Cv, 3-Way, 316SS**
                                                                                                    580 3.5Cv, 4-Way, 316SS**
                                              2VY 1.4Cv, Dual Coil, Brass**
                                                                                                    3VY
                                                                                                          1.4Cv, Dual Coil, Aluminum**
                                             5VY 1.4Cv, Dual Coil, 316 SS**
                                                                                                   3VZ 4.3Cv, Dual Coil, Aluminum**
                                             3B3 1.4Cv, 3-Way, Alum., 1/4 BSP
                                                                                                   3B7 1.4Cv, 4-Way, Alum., 1/4 BSP
                                                   1.4Cv, 3-Way, 316 SS, 1/4 BSP
                                                                                                   5B7
                                                                                                         1.4Cv, 4-Way, 316 SS, 1/4 BSP
                                             3B4 4.3Cv. 3-Wav. Alum., 1/2 BSP***,**
                                                                                                   3B8 4.3Cv, 4-Way, Alum., 1/2 BSP**
                                                      Valve Option
                                                       0 None
                                                          Low Temp. Seals (-40°C service)- comes with low-temp. coil
                                                       Χ
                                                       M Momentary Override
                                                           Locking Override
                                                          External Pilot - required for inlet pressure below 45 psi
                                                              Approval Option
                                                                   NEC/ATEX/IEC Intrinsically Safe/NEC Nonincendive- ratings as noted above; D230, D240, D250 Only NEC/ATEX/IEC Explosionprof/Flameproof- ratings as noted above; D260, D270, D280, D290 Only INMETRO Intrinsically Safe (IS) - D230, D240, D250 Only INMETRO Explosionproof/Flameproof - D260, D270, D280, D290 Only
                                                              NX
                                                                      Conduit Options
                                                                       2 M20 (Quantity based on options)
                                                                       3 3/4" NPT (Quantity based on options)****
D250
                  2M12
                             BY
                                             5V3
                                                               NS
                                                                          = Model Number D250NT2M12BYI5V30NS3
                                                                                                                                                              0G10014-CrC
```

*Magnum Proximity Switch Application Note:

For 24 V DC service below 1 Watt, M12 (Rhodium Magnum) is recommended

For 24 V DC service above 1 Watt, M06 (Tungsten Magnum) is recommended

Ordering notes:

- **Valve bodies are only available for series D230, D240 and D250; consult Sales for availability of options M, L, E on "540" & "580" Falcon Valve Bodies
- ***3V4 and 3B4 valve bodies are 3V8 and 3B8 valve bodies respectively, with ports 2 & 3 plugged at the factory for 3-way functionality
- ****3 open conduits are (2) 3/4 NPT and (1) 1/2 NPT for D280/D290

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EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE

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EXPLOSIONPROOF / FLAMEPROOF, INTRINSICALLY SAFE OR NON-INCENDIVE



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