

## WESTLOCK K20 ELECTRO-PNEUMATIC POSITIONERS

CERTIFIED TO NEC, CEC, ATEX, IECEx STANDARDS TO MEET INTRINSICALLY SAFE AND NON-INCENDIVE OPTIONS

The K20 is a next generation electro-pneumatic positioner that delivers improved levels of reliability and modulating position control via simple auto calibration.



### GENERAL APPLICATION

The K20 represents the next phase in Westlock's mission to present a more effective and economical electro-pneumatic positioner solution. Designed to complete calibration in just minutes and independently adjust the positioner, the K20 performs position measuring by an off-set, Hall Effect Sensor.

### TECHNICAL SPECIFICATION

Input current	4 – 20mA (analogue)
Voltage drop	9 volts
Supply pressure	15 to 45 psi (low), 40 to 120 psi (high)
Resolution	0.5% of span
Hysteresis	0.4% of span
Repeatability	0.4% of span
Thermal Coefficient	3% / 100 °C
Output flow rates	16.2 scfm [standard] & 40 scfm (high) @ 90 psig supply
Air consumption	0.08 scfm @ 90 psi (high) 0.03 scfm @ 20 psi (low)
Gain	Adjustable
Air connection ports	¼" BSP / NPT

### FEATURES

- Simple auto calibration is completed in minutes and results are displayed on LCD display, facilitating setup and commissioning.
- Limit switch options allow for more flexibility in applications.
- Includes as standard a 4 – 20mA feedback position transmitter for verification that the valve package is tracking correctly.
- Non-contact Hall Effect sensor eliminates geared mechanical potentiometer for extended product life, reduced maintenance and improved performance under vibration.
- Every unit suitable for single acting and double acting.
- Globally certified

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## TECHNICAL DATA

### Agency approvals

Intrinsically Safe

ATEX and IECEX  
(Engineered Resin or Stainless Steel enclosure)  
II 1G  
Ex ia IIC T4 Ga  
Ta = -40°C to +85°C Ta = -40°C to +85°C

(Aluminum enclosure)

II 1G  
II 2D  
Ex ia IIC T4 Ga  
Ex tb IIIC T87 Db  
Ta = -40°C to +85°C Ta = -40°C to +85°C

North America  
(Stainless Steel or Resin)  
Class I, Div. 1, Groups A, B, C & D, T4;  
Class I, Zone 0, AEx/Ex ia IIC T4 Ga;  
Type 4X, IP 65  
Class I, Div. 2, Groups A, B, C & D, T4;  
Type 4X, IP 65

(Aluminum Only)

Class I, Div. 1, Groups A, B, C & D, T4;  
Class II, Div. 1, Groups E, F & G;  
Class III;  
Class I, Zone 0, AEx/Ex ia IIC T4 Ga;  
Class II, Zone 21, AEx/Ex tb IIIC T87 Db;  
Type 4X, IP 65

Non-Incendive  
Class I, Div. 2, Groups A, B, C & D, T4;  
Class II, Div. 2, Groups F & G;  
Class III;  
Type 4X, IP 65

Note: The switch options are approved for hazardous locations. (Mech. Switch option not for use in Division 2 North America).

## MATERIAL OF CONSTRUCTION

Housing / Cover	Engineered resin, aluminum & CF8M (316) stainless steel
Manifold	Anodized aluminum or stainless steel
Conduit	M20 / M25 / 3/4" NPT
Shaft	Stainless steel
Hardware	Stainless steel

## 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.



### SPDT mechanical switch V3

A V3 (single pole double throw) mechanical switch (Form C).



### P+F NJ2-V3-N inductive proximity sensor

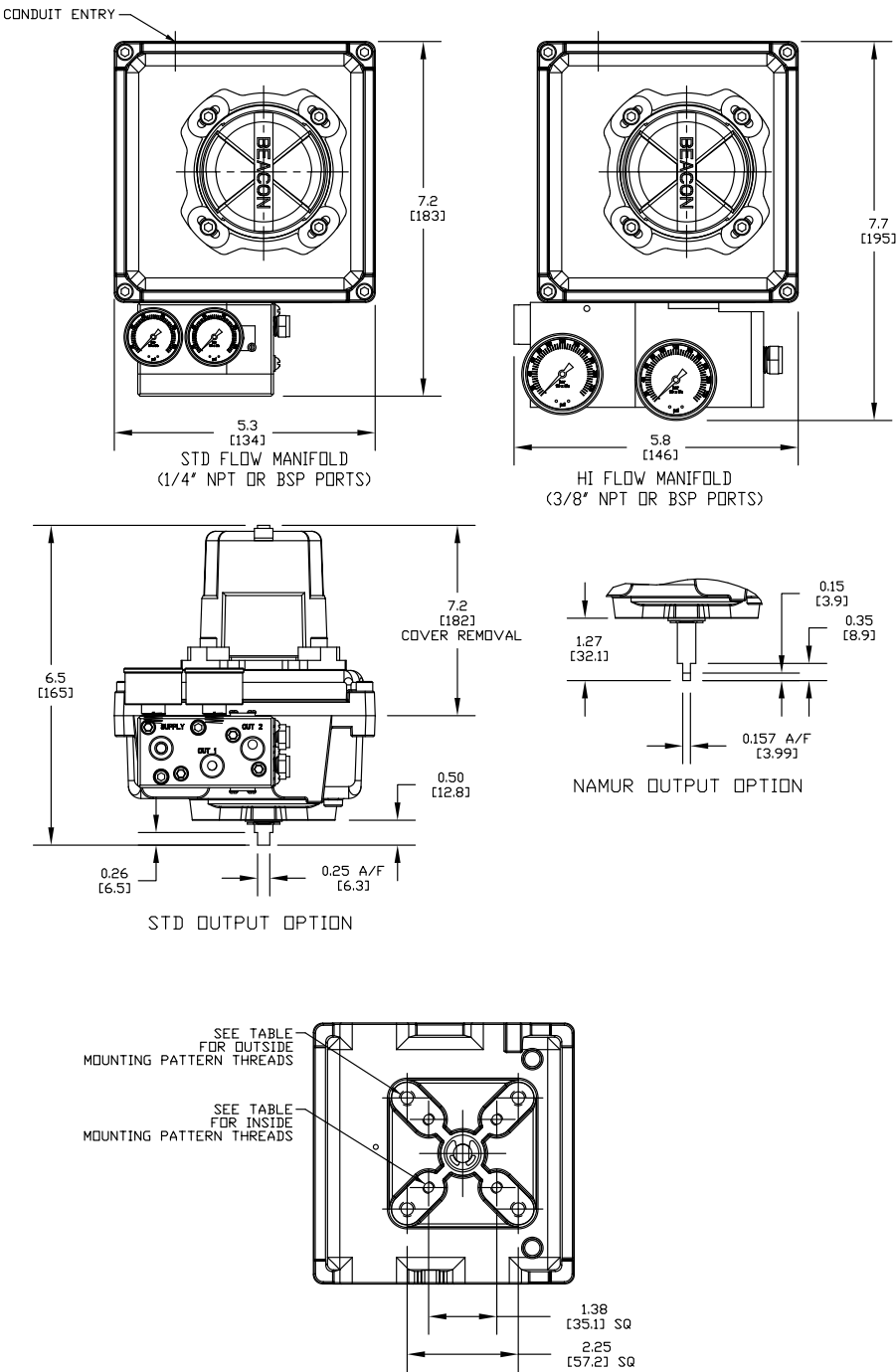
*Intrinsically Safe*

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

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GA DRAWING



SIMPLE CALIBRATION

- Easy to use auto-calibration via button assumes Low is 4mA and High is 20mA
- Manual Low/High Calibration - with 'value' options for closed and open positions
- Full Manual Calibration accommodating:
  - Forward Gain/Reverse Gain
  - Drop Off
  - Zero Adjust
  - Span Adjust
  - Forward or Reverse Acting
  - Long Cal – For larger actuators to avoid timeout of calibration
  - Split Range Applications

MOUNTING OPTIONS

CONDUIT ENTRY	OUTSIDE MOUNTING PATTERN	INSIDE MOUNTING PATTERN	HOUSING MATERIAL
3/4"-14 NPT	5/16"-18	N/A	Resin
3/4"-14 NPT	5/16"-18	M6 x 1	Metal
M25 x 1.5	M8 x 1.25	M6 x 1	All
M20 x 1.5	M8 x 1.25	M6 x 1	All

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POSITIONER SELECTION GUIDE

K Series Positioner Base Model										
K20	Electro-Pneumatic Positioner ( 4-20 mA Input )									
	Shaft Output									
	S	Standard (Double-D with 1/4" Flats)								
	D	Direct mount to Keystone 79U or MRP Actuators								
	N	NAMUR								
	Hazardous Area Certification									
	IS	Intrinsically Safe and Non-Incendive								
	Housing Material									
	E	Engineered Resin Enclosure (Clear Cover w/ Visible LCD)								
	S	Stainless steel CF8M (316) Enclosure								
	A	Aluminum Enclosure								
	Supply Pressure									
	H	STD flow High Pressure (40 - 120 psi)								
	L	STD flow Low Pressure (15 - 45 psi)								
	V	High Flow (40 - 120 psi, for larger actuators)								
	Manifold Material									
	0	Anodized Aluminium								
	1	Stainless Steel (required for SS enclosure)								
	Conduit Entry*									
	B	(1) M20 x 1.5 **								
	C	(1) 3/4-14 NPT *** (Recommended with switch options)								
	D	(1) M25 x 1.5 ** (Recommended with switch options)								
	Limit Switch Options									
	0	None								
	B	2 x SPDT Mechanical Switches with Gold Plated Contacts								
	I	2 x Inductive Sensors P&F Model NJ2-V3-N								
	T	2 x SPDT Magnum Proximity switches with Tungsten Contacts								
	R	2 x SPDT Magnum Proximity switches with Rhodium contacts								
	Position Transmitter Output									
	B	4-20mA Transmitter								
	Pneumatic Connections									
	N	1/4" NPT (3/8" NPT with high flow option)								
	B	1/4" BSP (3/8" BSP with high flow option)								
	F	1/4" NPT w/Aluminum Filter-Regulator Assembly (3/8" NPT with High Flow option)								
	S	1/4" NPT w/ Stainless Steel Filter-Regulator Assembly (3/8" NPT with High Flow option)								
K20	N	IS	E	H	0	C	R	B	F	= Model number <b>K20NISEH0CRBF</b>

Magnum Proximity Switch Application Note:

For **24 VDC service below 1 watt**, **R** (Rhodium Magnum switches) is recommended

For **24 VDC service below 1 watt**, **T** (Tungsten Magnum switches) is recommended

\* Consult sales for multiple conduit offerings

\*\* Mounting pattern (M8 x 1.25 outer pattern) (M6 x 1 inner pattern)

\*\*\* Mounting pattern (5/16-18 outer pattern) (M6 x 1 inner pattern - metal housings only)

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