

Vickers by Danfoss ® IM



Engineered for the durability required for heavy-duty applications.

Position Feedback System

Eaton has been an industry pioneer incorporating positioning systems into industrial cylinder. Two types of feedback systems are available

- End of stroke indicators like proximity switches
- Absolute position indicators like linear transducers

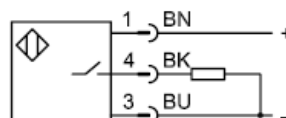
Proximity Switch Option

Proximity switches for Series IM25 Cylinder are inductive type switches with a sensing probe that looks at the cushion collar or cushion spud to provide extend or retract indication. These switches are non contact type and are designed with probe inside the cylinder to protect against wear resistance and harsh external environments. Switch is also protected against short circuit and polarity reversal.

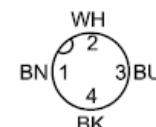
Switch details

Maximum Pressure	50 Mpa
Ambient temperature	-25°C to +80°C
Rated operational voltage	24 Vdc
Voltage drop static	<=1.5 Vdc
Rated operational current	200 mA
Degree of protection	IP68 per BWN Pr 20
Switching output	PNP
Switching element function	NO
Hysteresis	<15%
Ripple of power supply	15%
No load current	10mA
Supply voltage max	30 Vdc
Supply voltage min	10 Vdc
Voltage drop static	<=2 Vdc
Operating frequency	1000 Hz

Wiring diagram

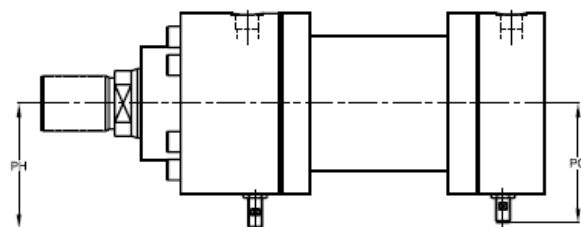


Pinout diagram



Switch envelope details

Bore (mm)	PH (mm) (Approx)	PC (mm) (Approx)
40	86	75
50	90	78
63	95	81
80	102	110
100	108	110
125	142	155
140	150	162
160	155	162
180	162	162
200	170	170
220	225	225
250	235	235
280	250	250
320	260	260



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Linear Transducer Option

A complete line of precision cylinder position sensing and feedback devices are available. These packaged cylinder systems can handle virtually any application requiring feedback throughout the cylinder stroke with or without velocity monitoring. Series IM 25 Cylinder utilizes feedback technology based on magnetostriction principle. Eaton can supply cylinder prepared for transducer or with transducer. Various cover options are also available to protect transducer from external harsh environment.

Transducer Details

Operating Principle	Magnetostrictive position sensing
Operating Pressure	250 Bar
Operating temperature (sensor electronics)	-40 to 75°C
Cable length	5m (15ft) standard *

Analogue Output option

Input Voltage	+24 Vdc (20.4-28.8 Vdc) standard
Output (Voltage)	0-10 Vdc (standard) *
Output (current)	4-20mA (standard) *
Resolution	Infinite
Non-Linearity	$\pm 0.02\%$ or ± 0.05 mm (± 0.002 in.), whichever is greater
Repeatability	$\pm 0.001\%$ of full stroke or ± 0.0001 in. (± 0.0025 mm), whichever is greater.
Measuring Range (Sensor only)	50mm to 2540mm (2 to 100 in) *
Protection (sensor)	IP 67
Connection Type on sensor	6 pin male (see details)

Digital Output option

Input Voltage	+24 Vdc Nominal (-15 or +20%)
Output	SSI
Resolution	5µm
Data length	24 Bit
Output format	Gray
Measuring direction	Forward
Non-Linearity	$< \pm 0.01\%$ F.S. (minimum ± 40 µm)
Repeatability	$< \pm 0.001\%$ F.S. (minimum ± 2.5 µm)
Hysteresis	< 4 µm typical 2 µm
Measuring Range (Sensor only)	50 - 7620 mm
Protection (sensor)	IP 67
Connection Type on sensor	7 pin male (see details)

* For other options consult factory



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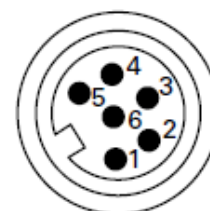
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Transducer connector pin details

Standard transducer comes with 6/7 pin male connector (depending on output) with a 5m length cable with female connector connected to it.

6 Pin connector for Analogue output

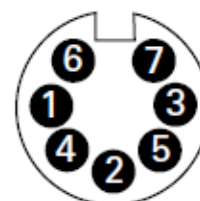
Pin No.	Wire Color	Function Analog Output
1	Grey	0 to 10, -10 to +10 Vdc or 4 to 20 mA, 0 to 20 mA or reverse acting: 10 to 0, 10 to -10 Vdc or 20 to 4 mA, 20 to 0 mA
2	Pink	Return for pin 1
3	Yellow	Programming (RS-485+)
4	Green	Programming (RS-485-)
5	Red or Brown	Supply voltage (+Vdc)
6	White	DC Ground (for supply)



Integral D6 connector (male)
as viewed from end of sensor

7 Pin connector for Digital output

Pin No.	Wire Color	Function Analog Output
1	Grey	Data(-)
2	Pink	Data(+)
3	Yellow	Clock(+)
4	Green	Clock(-)
5	Brown	+24 Vdc
6	White	0 V (GND)
7	n.c	



Male connector pin-out as
viewed from the end of the
sensor

Types of covers

Standard cover for transducer is aluminum casing for all mount except for MP5 & MP3 where the transducer is enclosed in body.

***Note:** Transducer cover option not available for 50 & 63 Bore cylinders for MF4 mount



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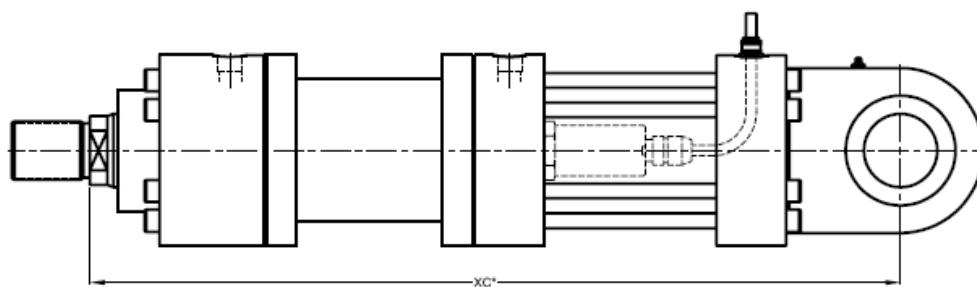


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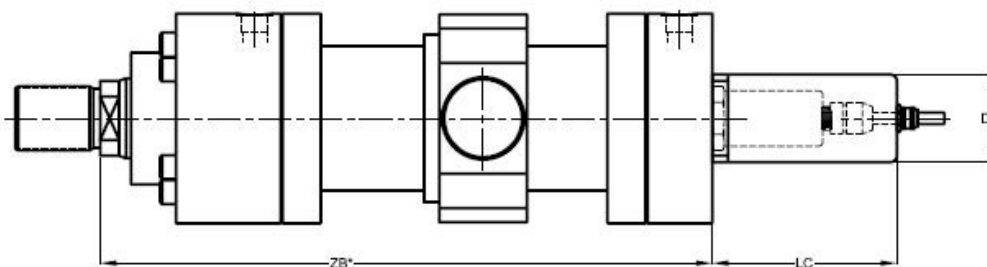
Mounting dimensions for cylinders with transducer

Bore	XC	ZB	ZP	LC	LC1	DC
40	Not Available-Consult Factory					
50	470	244	265	167	-	64
63	512	274	298	167	-	64
80	560	305	332	167	140	64
100	610	340	371	167	136	64
125	690	395	430	167	132	64
140	750	430	465	167	132	64
160	786	465	505	167	127	64
180	855	505	550	167	122	64
200	926	550	596	167	121	64
220	1066	637	690	167	114	64
250	1080	650	703	167	114	64
280	1250	752	822	167	97	64
320	1258	760	830	167	97	64

MP3 & MP5



MT4



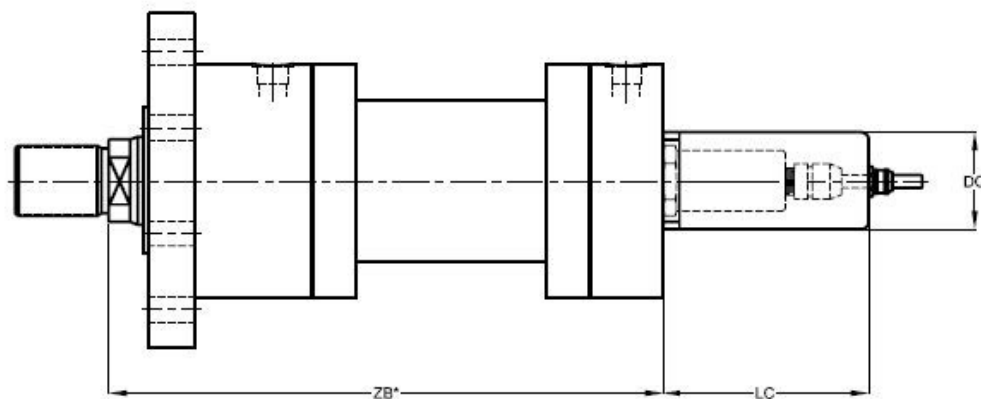
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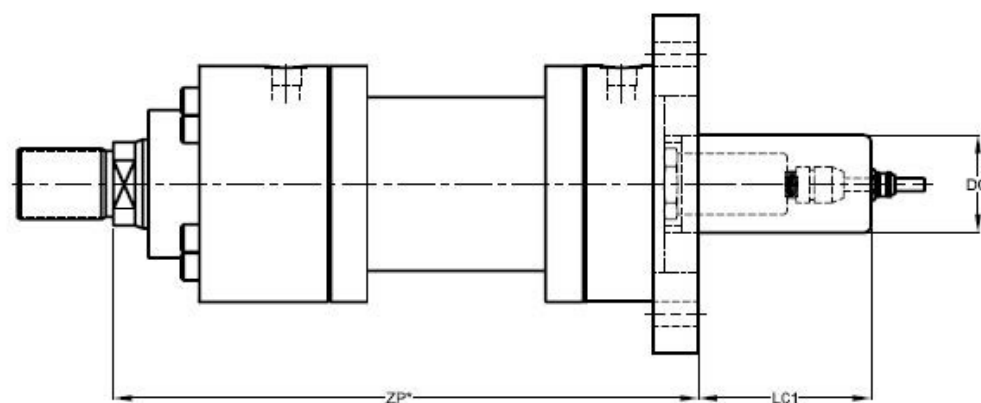


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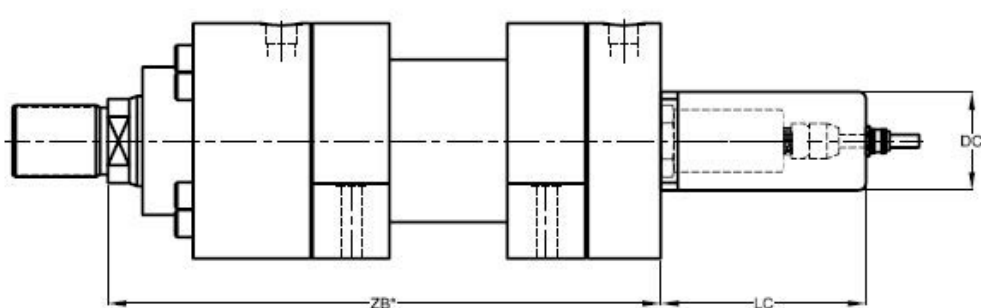
MF3



MF4



MS2



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