



PNEUMAX

Magnetic Cylinder Sensors



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RANKIN
COMPONENTS THAT AUTOMATE





Series SA

General

The limit switches, or magnetic sensors, must be mounted on cylinders with magnetic piston.

These, when hit by the magnetic field generated by the piston as it approaches, close the circuit sending an electrical signal to relay, solenoid valve or converse with the controlling electronic system of the machine. There are both ampulla Reed and Hall effect magnetic sensor available. The sensors are attached to the cylinder by a proper clamp, slot or adapter and may have an activation LED indicator.

Note: The magnetic sensors are according to the Directive **EMC 89/336/CEE** and following amendments.

Instruction on how to use the sensors properly

Particular attention should be paid in order not to exceed the wide operating limits shown in the next pages. Besides, the 2 wires sensors have never to be connected to the mains if a load has not been yet connected in series. These are the only cares that, if not followed, may cause damages to the sensor. Besides, please consider that, while loading, the current absorbed by the sensors might be 50% higher than the rated one.

In case of direct current (DC) feeding, the polarity of the connection must be observed: the brown cable must be connected to the plus (+) and the blue one to the minus (-).

For all sensors, particular attention has to be paid to external factors (like, for example, nearby live cables, electromagnetic fields generated by electric motors, nearby metallic bodies, etc.) since they can affect the magnetic field generated by the magnet inside the piston and therefore causing malfunctions.

Electrical cable length must be kept below 10 meters in order to guarantee proper functioning.

If needed, 10 meters cable length can be exceeded; Pneumax suggests the use of an inductor or resistor in series to the load in order to reduce the capacitive behavior of the cable.

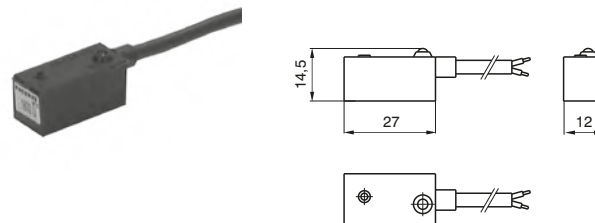
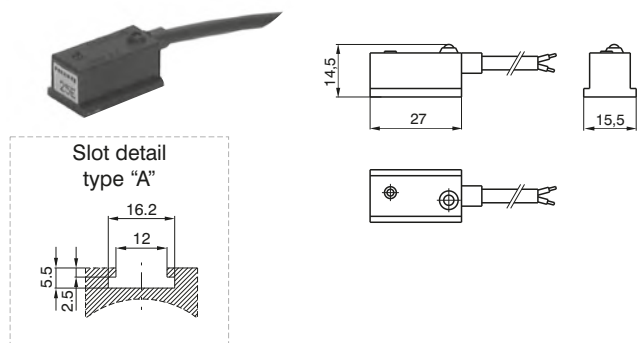
In this case, the customer is responsible for the selection of the inductor or resistor value. Pneumax assume no responsibility in case of malfunction.

When using a two wire Reed type sensor always ensure that the correct load is applied in series on any of the two wires.

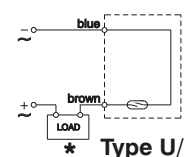
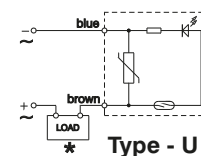
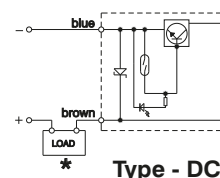
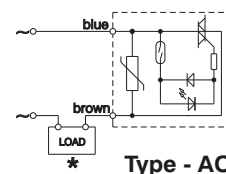
When using a sensor fitted with the SNAP connector pay attention to the orientation of the connector (see fig. page 6.6) because by inverting the connection the circuit will not be damaged, but the LED will not turn on. In case two or more sensors need to be connected in series, pay attention to the voltage drop generated (around 3V for each sensor), and, in case, use the version designed for in series connection.

Hall effect sensors are longer lasting if compared to the Reed version since they do not include any moving mechanical part.

Sensors with 2 wires cable (PUR Ø4,2 mm 2x0,34 mm²)



Diagrams and connections



Ordering code

Cylinders and microbore cylinders	1500.AC	sensor for alternating current with led
	1500.DC	sensor for continuous current with led
	1500. U	universal sensor with led
	1500.U/1	universal sensor without led (REED ampulla only)
Rodless cylinders	1600.AC	sensor for alternating current with led
	1600.DC	sensor for continuous current with led
	1600.U	universal sensor with led
	1600.U/1	universal sensor without led (REED ampulla only)

Technical characteristics	A.C.	D.C.	U		U/1	
			a.c.	d.c.	a.c.	d.c.
Maximum permanent current	1,5A	1,2A	0,5A		0,3A	
Maximum current (pulses of 0,5 sec.)	6A	1,5A	1A		0,8A	
Voltage range	12 - 230V	12 - 30V	3 - 230V	12 - 48V	0 - 230V	0 - 48V
Maximum permanent power	375VA	32W	20VA	15W	10VA	8W
Working temperature	-20° C - 70°C					
Maximum voltage drop	3V max	2V max	3V max		0V	
Cable section	2x0,34 mm ² Ø4,2 mm PUR					
Degree of protection	IP 65					
Connecting time	2 ms					
Disconnecting time	1 ms					
Average working period	10 ⁷ cycles					
Repetition of intervention point	± 0,1 mm					
Type of contact	N.O.					

★The load (LOAD) can be connected either to negative or positive pole.

These sensors can be used on cylinders series:

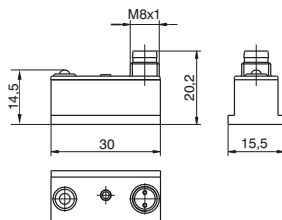
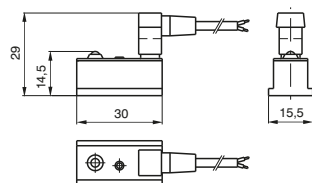
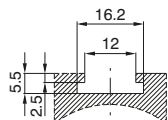
SERIES	DESCRIPTION	MOUNTED
1200	for microbore with threaded end covers and "TECNO-MIR" microbore	with clamps code 1260.Ø.F
	for microbore "MIR" with rolled end covers, cylinders from Ø16 to Ø32	with clamps code 1280.Ø.F
	for microbore "MIR-INOX" with rolled end covers	with clamps code 1280.Ø.FX
1306 - 1307 - 1308	for cylinders from Ø32 to Ø63	with brackets code 1306.A
	for cylinders from Ø80 to Ø125	with brackets code 1306.B
	for cylinders from Ø160 to Ø200	with brackets code 1306.C
1315	for cylinders Ø250 and Ø320 (ISO)	with brackets code 1306.D
1319 - 1320	for cylinders Ø32 and Ø40	with brackets code 1320.A
	for cylinders Ø50 and Ø63	with brackets code 1320.B
	for cylinders Ø80 and Ø100	with brackets code 1320.C
	for cylinders Ø125	with brackets code 1320.D
	for cylinders Ø160	with brackets code 1320.E
	for cylinders Ø200	with brackets code 1320.F
1390 - 1391	for cylinders ECOLIGHT Ø32 and Ø40	with brackets code 1390.A
	for cylinders ECOLIGHT Ø50 and Ø63	with brackets code 1390.B
	for cylinders ECOLIGHT Ø80 and Ø100	with brackets code 1390.C
	for cylinders ECOLIGHT Ø125 - Ø200	with brackets code 1390.D
1500	Compact cylinders "Europe" (from Ø32)	directly on groove
1605	Rodless cylinders	with brackets code 1600.A

2 pin sensor for SNAP connector

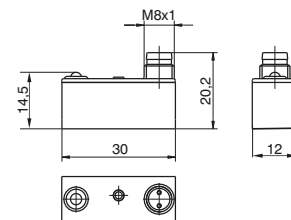
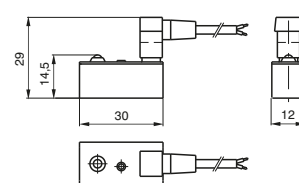


for cylinders and microbore

Slot detail type "A"



for rodless cylinders



Ordering code

Cylinders and microbore	RS.DC	sensor for continuous current with led normally open N.O.
	RS.UA	universal sensor with led normally open N.O.
	RS.UC	universal sensor with led normally closed N.C.
	RS.UA/1	universal sensor without led N.O. (REED ampulla only)
Rodless cylinders	SRS.DC	sensor for continuous current with led normally open N.O.
	SRS.UA	universal sensor with led N.O.
	SRS.UC	universal sensor with led normally closed N.C.
	SRS.UA/1	universal sensor without led N.O.
Cable	C1	connector with 2.5 m. cable 2 wires (PVC Ø3,5 mm 2x 0,25mm ²)
	C2	connector with 5 m. cable 2 wires (PVC Ø3,5 mm 2x 0,25mm ²)
	C3	connector with 10 m. cable 2 wires (PVC Ø3,5 mm 2x 0,25mm ²)

2 pin sensor for SNAP connector + C1 cable 2 wires (PVC Ø3.5 mm 2x0.25 mm²)

Cylinders and microbore	RS.DCC1	sensor for DC current N.O. with LED and 2.5 m. cable
	RS.UAC1	universal sensor with led N.O. with connector and 2.5 m. cable
	RS.UCC1	universal sensor with led N.C. with connector and 2.5 m. cable
	RS.UAC1/1	universal sensor without led N.O. with connector and 2.5 m. cable (REED ampulla only)
Rodless cylinders	SRS.DCC1	sensor for continuous current with led normally closed N.O. with connector and 2.5 m. cable
	SRS.UAC1	universal sensor with led N.O. with connector and 2.5 m. cable
	SRS.UCC1	universal sensor with led N.C. with connector and 2.5 m. cable
	SRS.UAC1/1	universal sensor without led N.O. with connector and 2.5 m. cable (REED ampulla only)

2 pin sensor with M8 connettor

Cylinders and microbore	RS8.DC	sensor for DC current N.O. with LED and M8 plug
	RS8.UA	universal sensor N.O. with LED and M8 plug
	RS8.UC	universal sensor N.C. with LED and M8 plug
Rodless cylinders	SRS8.DC	sensor for DC current N.O. with LED and M8 plug
	SRS8.UA	universal sensor N.O. with LED and M8 plug
	SRS8.UC	universal sensor N.C. with LED and M8 plug
Cable	MCH1	cable 3 wires l=2.5m with M8 connector three wires (PUR Ø2.6 mm 3x 0.15 mm ²)
	MCH2	cable 3 wires l=5m with M8 connector three wires (PUR Ø2.6 mm 3x 0.15 mm ²)
	MCH3	cable 3 wires l=10m with M8 connector three wires (PUR Ø2.6 mm 3x 0.15 mm ²)



3 pin sensor for SNAP connector with 2 wires according to IEC 947 norms

Cylinders and microbore	RS.DCNO	sensor for continuous current with led normally open N.O., according to standard IEC 947
	RS.UANO	universal sensor with led normally open N.O., according to standard IEC 947
Cable	C1NO	connector with 2.5 m. cable, according to standard IEC 947 (PVC Ø3.5 mm 2x0.25 mm ²)
	C2NO	connector with 5 m. cable, according to standard IEC 947 (PVC Ø3.5 mm 2x0.25 mm ²)
	C3NO	connector with 10 m. cable, according to standard IEC 947 (PVC Ø3.5 mm 2x0.25 mm ²)

3 pin sensors for in series assembling with SNAP connector

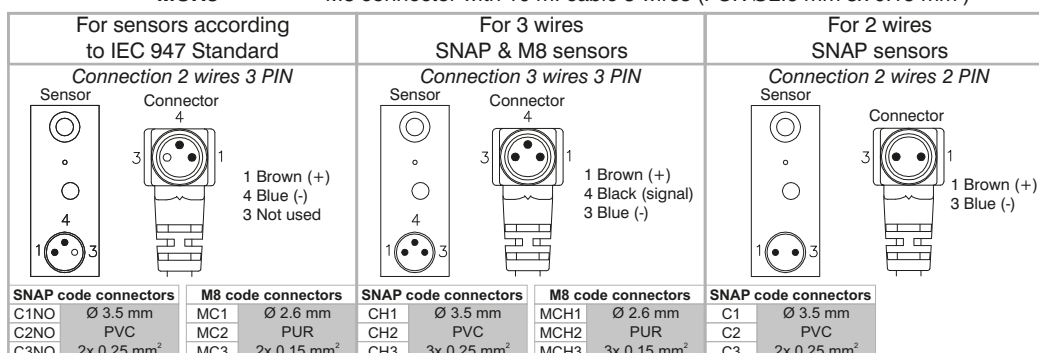
Cylinders and microbore Rodless cylinders	RS.UA/1L	universal sensor with led normally open N.O., for series assembly (3 wires)
	SRS.UA/1L	universal sensor with led N.O., for series assembly (3 wires)
Cable	CH1	connector with 2.5 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)
	CH2	connector with 5 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)
	CH3	connector with 10 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)

3 pin sensors for in series assembling with SNAP conn. + CH1 cable 3 wires (PVC ø3.5mm 3x0.25 mm²)

Cylinders and microbore	RS.UACH1/1L	universal sensor with led N.O. with connector and 2.5 m. cable, for series mounting (3 wires)
Rodless cylinders	SRS.UACH1/1L	universal sensor with led N.O. with connector and 2.5 m. cable, for series assembly (3 wires)

3 pin sensors for in series assembling with M8 connector

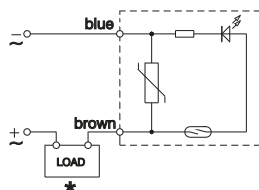
Cylinders and microbore Rodless cylinders	RS8.UA/1L	universal sensor N.O. with LED for in series assembling (3wires) and M8 plug
	SRS8.UA/1L	universal sensor N.O. with LED for in series assembling (3wires) and M8 plug
Cable	MCH1	M8 connector with 2.5 m. cable 3 wires (PUR Ø2.6 mm 3x 0.15 mm ²)
	MCH2	M8 connector with 5 m. cable 3 wires (PUR Ø2.6 mm 3x 0.15 mm ²)
	MCH3	M8 connector with 10 m. cable 3 wires (PUR Ø2.6 mm 3x 0.15 mm ²)



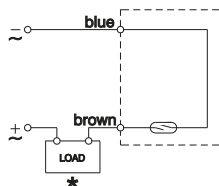
Technical characteristics	DC	UA				UA/1L		UA/1	
		a.c.		d.c.		a.c.	d.c.	a.c.	d.c.
Type of contact	N.O.	N.O.	N.C.	N.O.	N.C.	N.O.		N.O.	
Maximum permanent current	1.2A	0.5A	0.3A	0.5A	0.3A	0.5A		0.5A	
Maximum current (pulses of 0.5 sec.)	1.5A	1A	0.8A	1A	0.8A	1A		1A	
Voltage range	12 - 30V	3 - 250V	3 - 110V	12 - 48V		24V		0 - 250V	0 - 48V
Maximum permanent power	32W	20VA	10VA	15W	8W	20VA	15W	10VA	8W
Working temperature	-20°C - 70°C								
Maximum voltage drop	2V	<3V				0V			
Cables number	2					3		2	
Degree of protection	IP65								
Connecting time	2 ms								
Disconnecting time	1 ms								
Average working period	10 ⁷ cycles								
Repetition of intervention point	±0.1 mm								

Diagrams and connections

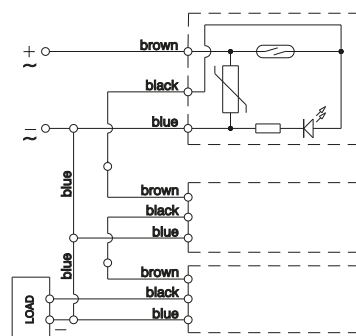
Type - UA



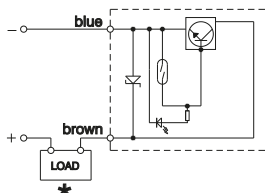
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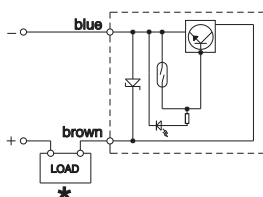
Type - UA/1L



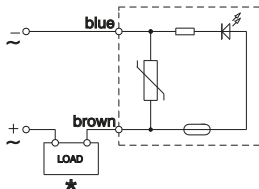
Type - DC



Type - DCNO



Type - UC

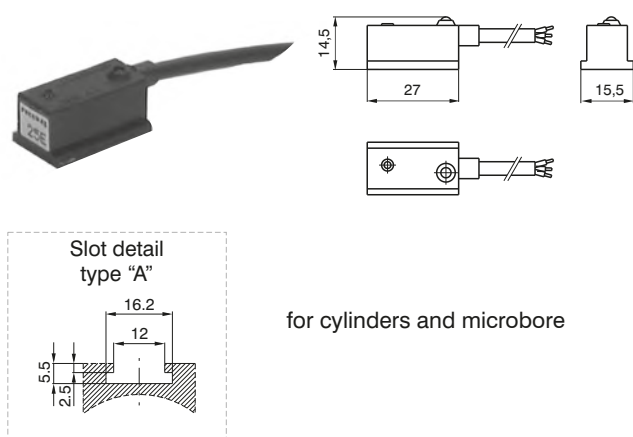


★The load (LOAD) can be connected either to negative or positive pole.

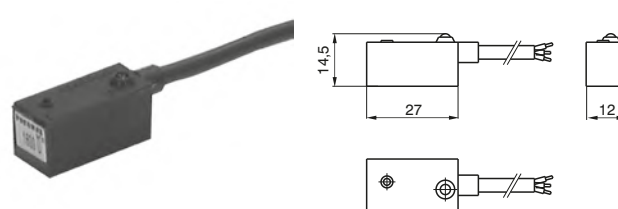
These sensors can be used on cylinders series:

SERIES	DESCRIPTION	MOUNTED
1200	for microbore with threaded end covers and "TECNO-MIR" microbore	with clamps code 1260.Ø.F
	for microbore "MIR" with rolled end covers, cylinders from Ø16 to Ø32	with clamps code 1280.Ø.F
	for microbore "MIR-INOX" with rolled end covers	with clamps code 1280.Ø.FX
1306 - 1307 - 1308	for cylinders from Ø32 to Ø63	with brackets code 1306.A
	for cylinders from Ø80 to Ø125	with brackets code 1306.B
	for cylinders from Ø160 to Ø200	with brackets code 1306.C
1315	for cylinders Ø250 and Ø320 (ISO)	with brackets code 1306.D
1319 - 1320	for cylinders Ø32 and Ø40	with brackets code 1320.A
	for cylinders Ø50 and Ø63	with brackets code 1320.B
	for cylinders Ø80 and Ø100	with brackets code 1320.C
	for cylinders Ø125	with brackets code 1320.D
	for cylinders Ø160	with brackets code 1320.E
	for cylinders Ø200	with brackets code 1320.F
1390 - 1391	for cylinders ECOLIGHT Ø32 and Ø40	with brackets code 1390.A
	for cylinders ECOLIGHT Ø50 and Ø63	with brackets code 1390.B
	for cylinders ECOLIGHT Ø80 and Ø100	with brackets code 1390.C
	for cylinders ECOLIGHT Ø125 - Ø200	with brackets code 1390.D
1500	Compact cylinders "Europe" (from Ø32)	directly on groove
1605	Rodless cylinders	with brackets code 1600.A

► **Sensors with 3 wires cable PUR \varnothing 4.2 mm 3x0.34mm²)**



for cylinders and microbore



for rodless cylinders

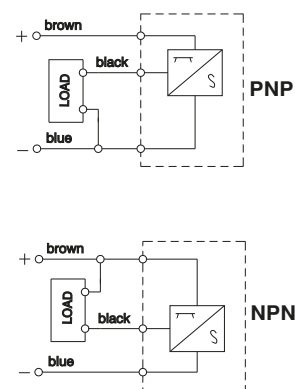
Ordering code

Cylinders and microbore	1500.HAP	PNP sensor Hall effect with led, normally open N.O.
	1500.HAN	NPN sensor Hall effect with led, normally open N.O.
Rodless cylinders	1600.HAP	PNP sensor Hall effect with led, normally open N.O.
	1600.HAN	NPN sensor Hall effect with led, normally open N.O.

Technical characteristics

Maximum permanent current	0.5A
Voltage range	10 - 30V DC
Power (inductive load)	10W
Maximum voltage drop	2V
Working temperature	-20°C - 70°C
Cable section	PUR 4.2mm 3x0.34 mm ²
Degree of protection	IP 65
Connecting time	0.8 μ s
Disconnecting time	0.3 μ s
Average working period	10 ⁹ cycles
Repetition of intervention point	\pm 0.1 mm
Type of contact	N.O.

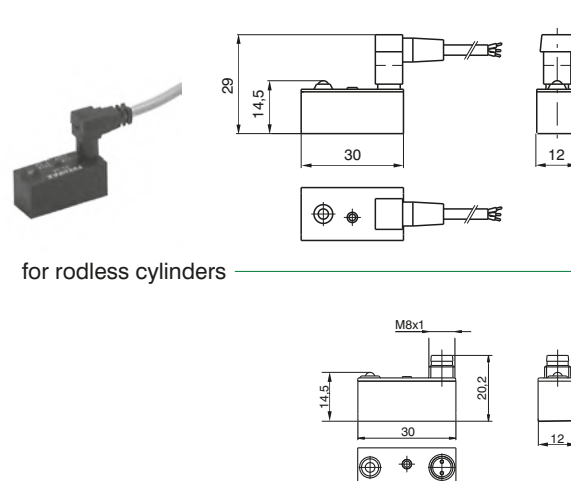
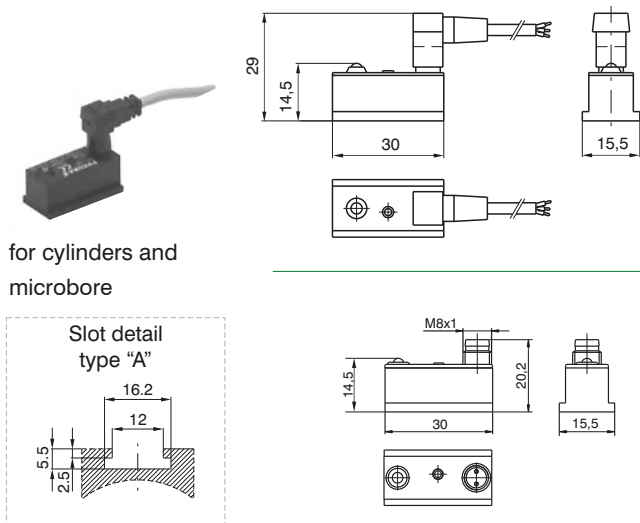
Diagrams and connections



These sensors can be used on cylinders series:

SERIES	DESCRIPTION	MOUNTED
1200	for microbore with threaded end covers and "TECNO-MIR" microbore	with clamps code 1260.Ø.F
	for microbore "MIR" with rolled end covers, cylinders from Ø16 to Ø32	with clamps code 1280.Ø.F
	for microbore "MIR-INOX" with rolled end covers	with clamps code 1280.Ø.FX
1306 - 1307 - 1308	for cylinders from Ø32 to Ø63	with brackets code 1306.A
	for cylinders from Ø80 to Ø125	with brackets code 1306.B
1315	for cylinders from Ø160 to Ø200	with brackets code 1306.C
	for cylinders Ø250 and Ø320 (ISO)	with brackets code 1306.D
1319 - 1320	for cylinders Ø32 and Ø40	with brackets code 1320.A
	for cylinders Ø50 and Ø63	with brackets code 1320.B
	for cylinders Ø80 and Ø100	with brackets code 1320.C
	for cylinders Ø125	with brackets code 1320.D
	for cylinders Ø160	with brackets code 1320.E
	for cylinders Ø200	with brackets code 1320.F
	for cylinders ECOLIGHT Ø32 and Ø40	with brackets code 1390.A
1390 - 1391	for cylinders ECOLIGHT Ø50 and Ø63	with brackets code 1390.B
	for cylinders ECOLIGHT Ø80 and Ø100	with brackets code 1390.C
	for cylinders ECOLIGHT Ø125 - Ø200	with brackets code 1390.D
1500	Compact cylinders "Europe" (from Ø32)	directly on groove
1605	Rodless cylinders	with brackets code 1600.A

3 PIN sensor for SNAP connector



Ordering code

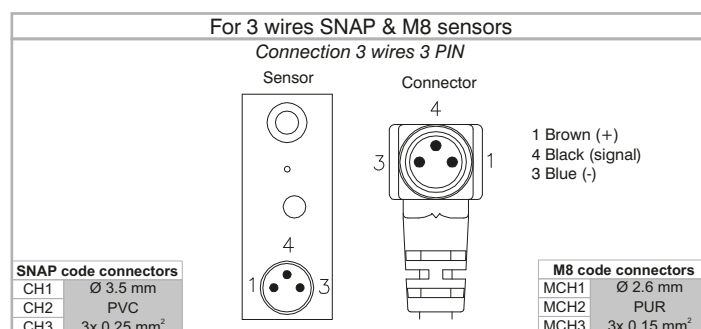
Cylinders and microcylinders	HS.PA	PNP sensor Hall effect with led, normally open N.O.
Rodless cylinders	SHS.PA	PNP sensor Hall effect with led, normally open N.O.
Cable	CH1	connector with 2.5 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)
	CH2	connector with 5 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)
	CH3	connector with 10 m. cable 3 wires (PVC Ø3.5 mm 3x0.25 mm ²)

3 PIN sensor for SNAP connector + CH1 cable 3 wires (PVC ø3.5 mm 3x0.25 mm²)

Cylinders and microbore	HS.PAC1	PNP sensor Hall effect N.O. with led, with connector and 2.5 m. cable
Rodless cylinders	SHS.PAC1	PNP sensor Hall effect N.O. with led, with connector and 2.5 m. cable

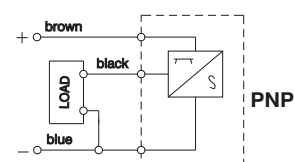
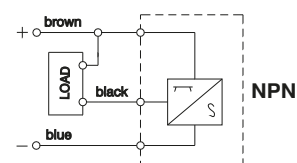
3 PIN sensor for M8 connector

Cylinders and microbore	HS8.NA	NPN Hall effect sensor N.O. with LED and M8 plug
	HS8.PA	PNP Hall effect sensor N.O. with LED and M8 plug
Rodless cylinders	SHS8.NA	NPN Hall effect sensor N.O. with LED and M8 plug
	SHS8.PA	PNP Hall effect sensor N.O. with LED and M8 plug
Cable	MCH1	M8 connector with cable 2.5 m. 3 wires (PUR Ø2.6 mm 3x0.15mm ²)
	MCH2	M8 connector with cable 5 m. 3 wires (PUR Ø2.6 mm 3x0.15mm ²)
	MCH3	M8 connector with cable 10 m. 3 wires (PUR Ø2.6 mm 3x0.15mm ²)



Technical characteristic

Maximum permanent current	0,25A
Voltage range	6 - 30V DC
Power (inductive load)	6W
Maximum Voltage drop	2V
Working temperature	-20°C - 70°C
Cables number	3
Degree of protection	IP 65
Connecting time	0,8 ms
Disconnecting time	0,3 ms
Average working period	10 ⁸ cycles
Repetition of intervention point	± 0,1 mm
Contact normally open	N.O.

Diagrams and connections

These sensors can be used on cylinders series:

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1306 - 1307 - 1308	for cylinders from Ø32 to Ø63 for cylinders from Ø80 to Ø125 for cylinders from Ø160 to Ø200	with brackets code 1306.A with brackets code 1306.B with brackets code 1306.C
1315	for cylinders Ø250 and Ø320 (ISO) for cylinders Ø32 and Ø40 for cylinders Ø50 and Ø63 for cylinders Ø80 and Ø100 for cylinders Ø125 for cylinders Ø160 for cylinders Ø200	with brackets code 1306.D with brackets code 1320.A with brackets code 1320.B with brackets code 1320.C with brackets code 1320.D with brackets code 1320.E with brackets code 1320.F
1319 - 1320	for cylinders ECOLIGHT Ø32 and Ø40 for cylinders ECOLIGHT Ø50 and Ø63 for cylinders ECOLIGHT Ø80 and Ø100 for cylinders ECOLIGHT Ø125 - Ø200	with brackets code 1390.A with brackets code 1390.B with brackets code 1390.C with brackets code 1390.D
1390 - 1391		
1500	Compact cylinders "Europe" (from Ø32)	directly on groove
1605	Rodless cylinders	with brackets code 1600.A



Series SR - SU - SQ - ST

General

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Note: The magnetic sensors are according to the Directive **EMC 89/336/CEE** and following amendments.

Instruction on how to use the sensors properly

Particular attention should be paid in order not to exceed the wide operating limits shown in the next pages. Besides, the 2 wires sensors have never to be connected to the mains if a load has not been yet connected in series. These are the only cares that, if not followed, may cause damages to the sensor. Besides, please consider that, while loading, the current absorbed by the sensors might be 50% higher than the rated one.

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For all sensors, particular attention has to be paid to external factors (like, for example, nearby live cables, electromagnetic fields generated by electric motors, nearby metallic bodies, etc.) since they can affect the magnetic field generated by the magnet inside the piston and therefore causing malfunctions.

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If needed, 10 meters cable length can be exceeded; Pneumax suggests the use of an inductor or resistor in series to the load in order to reduce the capacitive behavior of the cable.

In this case, the customer is responsible for the selection of the inductor or resistor value. Pneumax assume no responsibility in case of malfunction.

When using a two wire Reed type sensor always ensure that the correct load is applied in series on any of the two wires.

In case two or more sensors need to be connected in series, pay attention to the voltage drop generated (around 3V for each sensor), and, in case, use the version designed for in series connection.

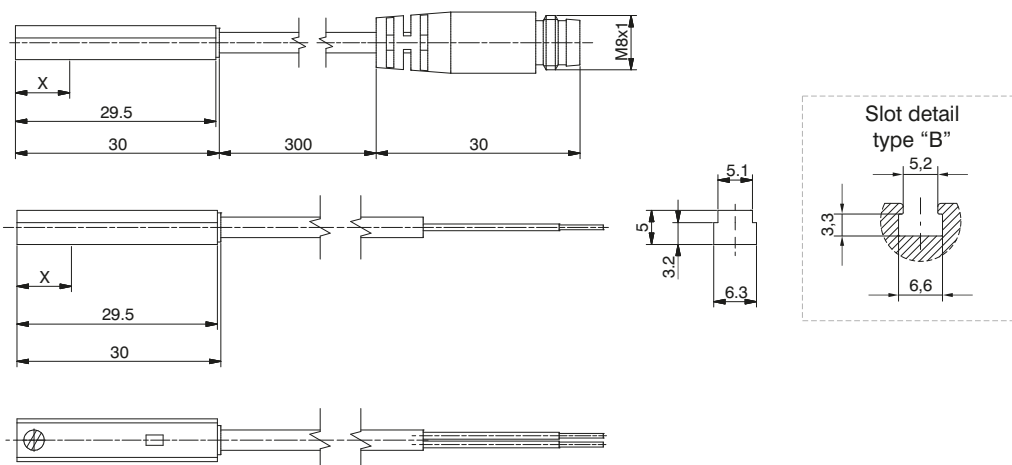
Hall effect sensors are longer lasting if compared to the Reed version since they do not include any moving mechanical part.

Sensor with 2.5 m. cable

Weight g 27

Sensor with cable and M8 connector

Weight g 15



Ordering code

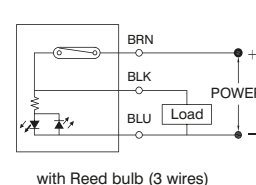
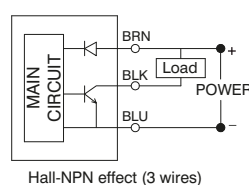
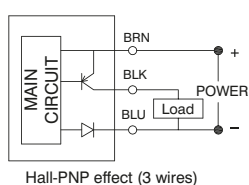
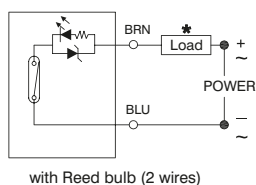
Ampulla Reed sensors, with led, Universal, N.O. (Normally open)

1580.U	(2 wires) cable 2.5 mt.	X=point of commutation 15 mm
MRS.U	(2 wires) cable 300 mm, M8 connector (use MC1 or MC2 connectors)	15 mm
1580.UAP	PNP (3 wires) cable 2.5 mt.	15 mm
MRS.UAP	PNP (3 wires) cable 300 mm, M8 connector (use MCH1 or MCH2 connectors)	15 mm

Hall effect sensors, with led, DC, N.O. (Normally open)

1580.HAP	PNP (3 wires) cable 2.5 mt.	X=point of commutation 8 mm
1580.HAN	NPN (3 wires) cable 2.5 mt.	8 mm
MHS.P	PNP (3 wires) cable 300 mm, M8 connector (use MCH1 or MCH2 connectors)	8 mm

Diagrams and connections



* The load (LOAD) can be connected either to negative or positive pole

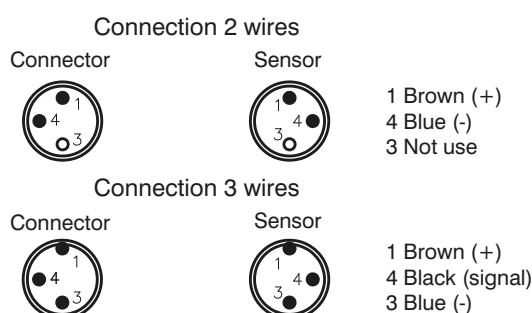
Technical characteristics	1580.U	MRS.U	1580.UAP	MRS.UAP	1580.HAP	1580.HAN	MHS.P
Type of contact	N.O.						
Output type			PNP			NPN	PNP
Maximum current	100mA						
Maximum permanent power	14 VA - 10 W		4 VA - 3 W		3 W		
Voltage range	5 - 230V DC/AC	5 - 30V DC/AC	10 - 30 V DC/AC		10 - 30 V DC		
Working temperature	-10°C - +70°C						
Maximum voltage drop	3.5 V		0V **		2 V		
Cable section (mm²)	2 x 0.14 Ø3.3mm PUR	2 x 0.14 Ø3.3mm PUR	3 x 0.14 Ø3.3 mm PUR		3 x 0.14 Ø3.3 mm PUR		
Degree of protection	IP 67						

** Even if one sensor generates a voltage drop very close to 0 Volts, we suggest to connect no more than 30 sensors in series.

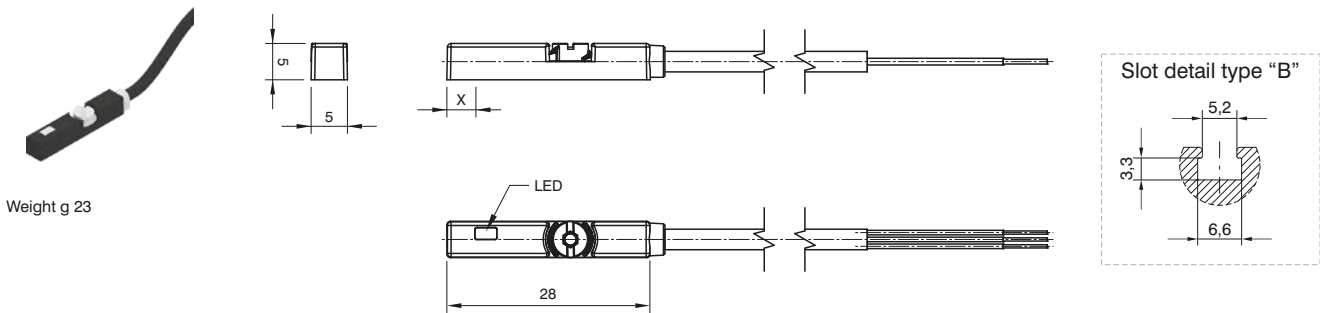
Cable ordering code

MC1	cable 2 wires l=2.5m with M8 connector
MC2	cable 2 wires l=5m with M8 connector
MC3	cable 2 wires l=10m with M8 connector

MCH1	cable 3 wires l=2.5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector



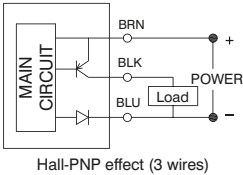
Sensor with 2.5 m. cable



Ordering code

Hall effect sensors, with led, DC, N.O. (Normally open)		X= point of commutation
1595.HAP	PNP (3 wires) cable 2.5 mt.	2.3 mm

Diagrams and connections



Technical characteristics	1595.HAP
Type of contact	N.O.
Output type	PNP
Maximum current	100 mA
Maximum permanent power	3W
Voltage range	10 - 28 VDC
Working temperature	-10 - +70°C
Maximum voltage drop	1,5V
Cable section (mm ²)	3 x 0,14 Ø2.8 mm PUR
Degree of protection	IP67

Sensor with 2,5 m cable

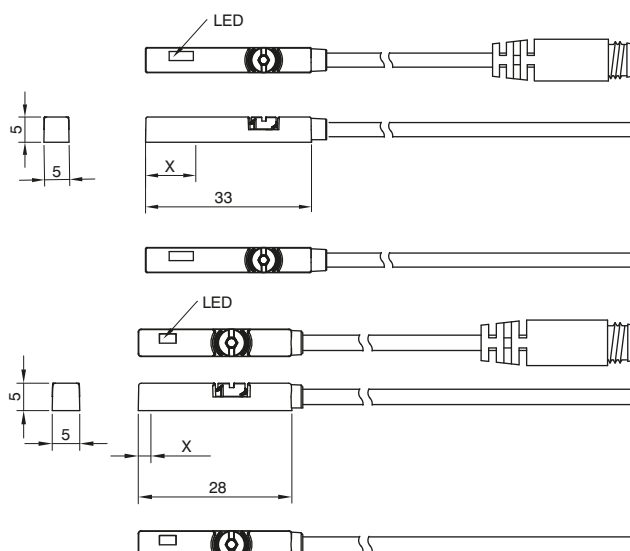


Weight g 27

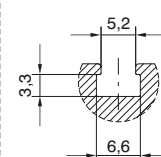
Sensor with cable and M8 connector



Weight g 15



Slot detail type "B"



Ordering code

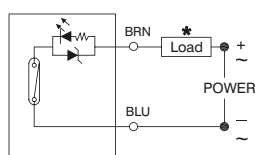
Ampulla Reed sensors, with led, Universal, N.O. (Normally open)

		X=point of commutation
1590.U	(2 wires) cable 2.5 mt.	10 mm
LRS.U	(2 wires) cable 300 mm, M8 connector (use MC1 or MC2 connectors)	10 mm
1590.UAP	PNP (3 wires) cable 2.5 mt.	10 mm
LRS.UAP	PNP (3 wires) cable 300 mm, M8 connector (use MCH1 or MCH2 connectors)	10 mm

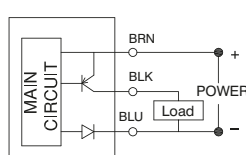
Hall effect sensors, with led, DC, N.O. (Normally open)

		X=point of commutation
1590.HAP	PNP (3 wires) cable 2.5 mt.	2,3 mm
LHS.P	PNP (3 wires) cable 300 mm, M8 connector (use MCH1 or MCH2 connectors)	2,3 mm

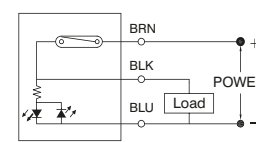
Diagrams and connections



with Reed bulb (2 wires)



Hall-PPNP effect (3 wires)



with Reed bulb (3 wires)

* The load (LOAD) can be connected either to negative or positive pole

Technical characteristics	1590.U	LRS.U	1590.UAP	LRS.UAP	1590.HAP	LHS.P
Type of contact	N.O.					
Maximum current	100mA		500mA		200mA	
Maximum permanent power	14 VA - 10 W		14 VA - 10 W		6 W	
Voltage range	5 - 30V DC/AC		10 - 30 V DC/AC		10 - 30 V DC	
Working temperature	-10°C - +70°C					
Maximum voltage drop	3 V		0V **		1.5 V	
Cable section (mm²)	2 x 0.14 Ø3 mm PUR		3 x 0.14 Ø3 mm PUR			
Degree of protection	IP 67					

** Even if one sensor generates a voltage drop very close to 0 Volts, we suggest to connect no more than 30 sensors in series.

Cable ordering code

MC1	cable 2 wires l=2.5m with M8 connector
MC2	cable 2 wires l=5m with M8 connector
MC3	cable 2 wires l=10m with M8 connector

MCH1	cable 3 wires l=2.5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector

Connection 2 wires

Connector



Sensor



1 Brown (+)
4 Blue (-)
3 Not use

Connection 3 wires

Connector



Sensor



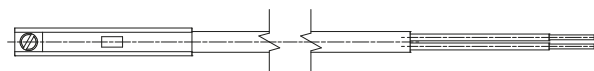
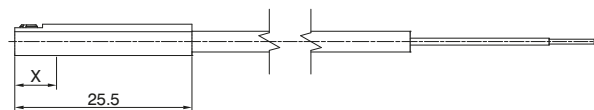
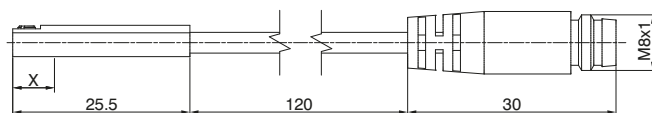
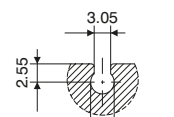
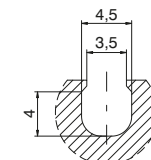
1 Brown (+)
4 Black (signal)
3 Blue (-)

Sensor with 2.5 m. cable


Weight g 22

Sensor with cable and M8 connector

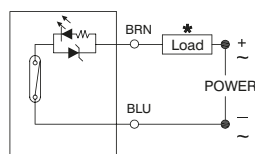

Weight g 10


Slot detail type "C"

Slot detail type "D"

Ordering code
Ampulla Reed sensors, with led, Universal, N.O. (Normally open)

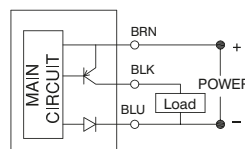
		X=point of commutation
1581.U	(2 wires) cable 2.5 mt.	10 mm
TRS.U	(2 wires) cable 100 mm, M8 connector (use MC1 or MC2 connectors)	10 mm

Hall effect sensors, with led, DC, N.O. (Normally open)

		X=point of commutation
1581.HAP	PNP (3 wires) cable 2.5 mt.	7,5 mm
THS.P	PNP (3 wires) cable 100 mm, M8 connector (use MCH1 or MCH2 connectors)	7,5 mm

Diagrams and connections


with Reed bulb (2 wires)



Hall-PNP effect (3 wires)

* The load (LOAD) can be connected either to negative or positive pole

Technical characteristics	1581.U	TRS.U	1581.HAP	THS.P
Type of contact	N.O.			
Maximum current	50mA			
Maximum permanent power	8 VA - 1,5 W		1,5 W	
Voltage range	5 - 30V DC/AC		10 - 30 V DC	
Working temperature	-10°C - +70°C			
Maximum voltage drop	3,5 V		1 V	
Cable section (mm²)	2 x 0,14 Ø2,8 mm PUR		3 x 0,14 Ø2,8 mm PUR	
Degree of protection	IP 67			

Cable ordering code
Connection 2 wires

Connector



Sensor


1 Brown (+)
4 Blue (-)
3 Not use

Connection 3 wires

Connector



Sensor


1 Brown (+)
4 Black (signal)
3 Blue (-)

MC1 cable 2 wires l=2.5m with M8 connector
MC2 cable 2 wires l=5m with M8 connector
MC3 cable 2 wires l=10m with M8 connector

MCH1 cable 3 wires l=2.5m with M8 connector
MCH2 cable 3 wires l=5m with M8 connector
MCH3 cable 3 wires l=10m with M8 connector

► Sensor with cable

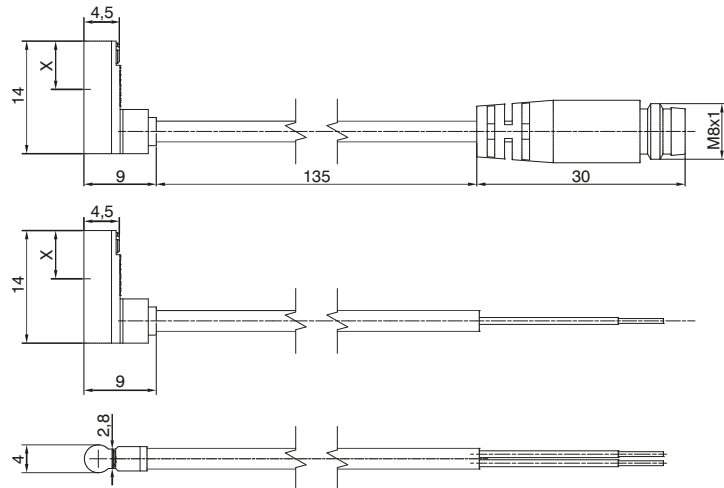


Weight g 22

► Sensor with cable and M8 connector



Weight g 10



Ordering code

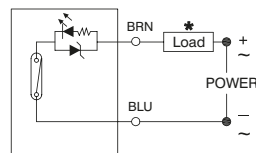
► Ampulla Reed sensors, with led, DC, N.O. (Normally open)

		X=point of commutation
1583.DC	(2 wires) cable 2 mt.	6 mm

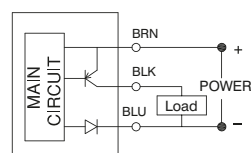
► Hall effect sensors, with led, N.O. (Normally open)

		X=point of commutation
1583.HAP	PNP (3 wires) cable 3 mt.	6 mm
THR.P	PNP (3 wires) cable 100 mm, M8 connector (use MCH1 or MCH2 connectors)	6 mm

Diagrams and connections



with Reed bulb (2 wires)



Hall-PNP effect (3 wires)

* The load (LOAD) can be connected either to negative or positive pole

TECHNICAL CHARACTERISTICS	1583.DC	1583.HAP	THR.P
Type of contact	N.O.		
Maximum current	20mA	50mA	
Maximum permanent power	0,6 W	1,5 W	
Voltage range	10 - 28V DC	4,5 - 28 V DC	
Working temperature	-10°C - +70°C		
Maximum voltage drop	3,5 V	0,5 V	
Cable	Ø2,6 mm PVC - 2 m	Ø2,6 mm PVC - 3 m	
Degree of protection	IP 67		

Cable ordering code

MCH1
MCH2

cable 3 wires l=2.5m with M8 connector
cable 3 wires l=5m with M8 connector

Connection 3 wires

Connector



Sensor



1 Brown (+)
4 Black (signal)
3 Blue (-)



Miniaturised magnetic sensors Series SR - SU - SQ - ST

Rectangular section version (for sensor slot type "B")

SERIES	DESCRIPTION	MOUNTED
1200	Microbore with threaded end covers and "TECNO-MIR" microbore "MIR" with rolled end covers Microbore "MIR-INOX" with rolled end covers for cylinders Ø32 - Ø40	with clamps code 1260.0.FS with clamps code 1280.0.FS with clamps code 1280.0.FSX with brackets code 1320.AS
1319 - 1320 1325 - 1345 1330 - 1332 1348 - 1349	for cylinders Ø50 ÷ Ø63 for cylinders Ø80 ÷ Ø100 for cylinders Ø125 for cylinders Ø160 for cylinders Ø200	with brackets code 1320.BS with brackets code 1320.CS with brackets code 1320.DSC with brackets code 1320.ESC with brackets code 1320.FSC
1386-87 / 1396-97	Cylinders according to standard ISO 15552 ECOPLUS	directly on groove
1390 - 1391	Cylinders according to standard ISO 15552 ECOLIGHT Warning: To use only into the lateral slot, from Ø32 to Ø63 cylinders. (do not use into the 2 slots positioned on the side of feeding connection)	directly on groove
1370÷1373	Cylinders ECOFLAT	directly on groove
	Short stroke compact cylinders	with adapter code 1380.01F
1500	Compact cylinders "Europe"	from Ø12 to Ø25: directly on groove from Ø32 to Ø50: directly on groove or with adapter 1380.01F from Ø63 to Ø100: with adapter cod. 1380.01F
	Compact cylinder according to standard ISO 21287 ECOMPACT	directly on groove
1605	Rodless cylinders	with adapter code 1600.B
6100	Guided compact cylinder (Ø20 - Ø63)	directly on groove
6101	Heavy duty guided shortstroke cylinder	
6200	Twin rod slides units	
6210	Twin through rod slides units	
6301	Pneumatic grippers, angular standard version	
6303	180° angular gripper rack & pinion style	
6310	Parallel style pneumatic grippers standard version (Ø10 - Ø25)	
6311	Parallel style pneumatic grippers wide opening	
6312	3 finger parallel style pneumatic grippers (Ø32 - Ø125)	



Square section version (for sensor slot type "B")

SERIES	DESCRIPTION	MOUNTED
1200	Microbore with threaded end covers and "TECNO-MIR" microbore "MIR" with rolled end covers Microbore "MIR-INOX" with rolled end covers for cylinders Ø32 - Ø40	with clamps code 1260.0.FS with clamps code 1280.0.FS with clamps code 1280.0.FSX with brackets code 1320.ASC
1319 - 1320 1325 - 1345 1330 - 1332 1348 - 1349	for cylinders Ø50 - Ø63 for cylinders Ø80 - Ø100 for cylinders Ø125 for cylinders Ø160 for cylinders Ø200	with brackets code 1320.BSC with brackets code 1320.CSC with brackets code 1320.DSC with brackets code 1320.ESC with brackets code 1320.FSC
1386-87 / 1396-97	Cylinders according to standard ISO 15552 ECOPLUS	directly on groove
1390 - 1391	Cylinders according to standard ISO 15552 ECOLIGHT	directly on groove
1370÷1373	Cylinders ECOFLAT	directly on groove
1500	Compact cylinders "Europe"	from Ø12 to Ø25: directly on groove from Ø32 to Ø50: directly on groove
	Compact cylinder according to standard ISO 21287 ECOMPACT	directly on groove
6100	Guided compact cylinder (Ø20 - Ø63)	directly on groove
6101	Heavy duty guided shortstroke cylinder	
6200	Twin rod slides units	
6210	Twin through rod slides units	
6301	Pneumatic grippers, angular standard version	
6303	180° angular gripper rack & pinion style	
6310	Parallel style pneumatic grippers standard version (Ø10 - Ø25)	
6311	Parallel style pneumatic grippers wide opening	
6312	3 finger parallel style pneumatic grippers (Ø32 - Ø125)	
6411	Single rack rotary actuators	



Round section version (for sensor slot type "C" and "D")

SERIES	DESCRIPTION	MOUNTED
6100	Guided compact cylinder (Ø12 - Ø16)	directly on groove
6302	Pneumatic grippers, 180° angular	
6310	Parallel style pneumatic grippers standard version (Ø16 and Ø25)	
6312	3 finger parallel style pneumatic grippers (Ø16 - Ø25)	
6400	Double rack rotary actuators with turn table	
6420	Vane type rotary actuators (from Ø10 to Ø40)	
6500	Arbitrary mount cylinders	
6600	Slide cylinders	
6700	Guide cylinders	



Round section 90° cable version (for sensor slot type "C" and "D")

SERIES	DESCRIPTION	MOUNTED
6420	Vane type rotary actuators	directly on groove

