

Millenium 3 accessories

→ Temperature converters



- Compatible with Millenium 3 analog inputs
- Can be used to diversify the type of sensors for analog inputs



Part numbers

Type	Description	Input	Input range	Output	Code
AC	Converter	Pt1000 3-wire	-20 → +150 °C	0-10 V	88950150
	Converter	Pt100 3-wire	-40 → +40 °C	0-10 V	88950151
	Converter	Pt100 3-wire	0 → +100 °C	0-10 V	88950152
	Converter	Pt100 3-wire	0 → +250 °C	0-10 V	88950153
	Converter	Thermocouple J	0 → +300 °C	0-10 V	88950154
	Converter	Thermocouple K	0 → +600 °C	0-10 V	88950155

General characteristics

Ambient characteristics

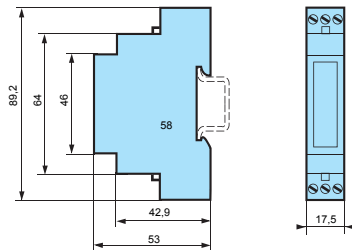
Certifications	CE, UL
Protection rating	In accordance with IEC/EN 60529: IP40 on front panel IP20 on terminal block
Operating temperature	-10 → +55 °C

Electrical characteristics

Supply	24 V $\overline{\text{---}}$
Operating limits	$\pm 10\%$ or 21.6 → 26.4 V $\overline{\text{---}}$
Max. Output power	< 1 W
Output voltage	0 → 10 V $\overline{\text{---}}$
Device accuracy (full scale)	$\pm 1\%$

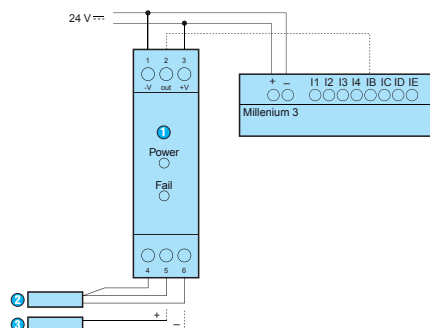
Dimensions (mm)

Temperature converter



Connections

Temperature converter



- 1 Temperature converter: Pt100/Pt1000 thermocouple J/K
- 2 Pt100 3-wire
- 3 Thermocouple

Millenium 3 accessories

→ Signal converters



- Current/voltage conversion of Millenium 3 input signals
- PWM/voltage conversion of Millenium 3 output signals



Part numbers

Type	Description	Input	Output	Code
AC	0-20 mA/0-10 V input converter	4	4	88950108
	PWM/0-10 V output converter	1	1	88950112

General characteristics

88950108

88950112

Current/voltage converter

PWM/0-10 V converter

Environmental characteristics

Certifications	CE	CE
Protection rating	In accordance with IEC/EN 60529: IP20 terminal block IP50 casing	In accordance with IEC/EN 60529: IP20
Operating temperature	-20 → +85 °C	-20 → +55 °C
Storage temperature	-40 → +85 °C	-25 → +70 °C

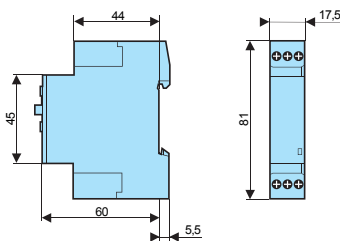
Electrical characteristics

Supply	-	24 V \pm (+10 % / -15 %)
Input current	0-20 mA	-
Output voltage	0-10 V \pm 5 %	0-10 V \pm 5 %
Impedance	500 Ω (input)	250 Ω (maximum load)
Max. current	40 mA	40 mA (output)
Input PWM	-	24 V \pm (+20 % / -15 %, 120 Hz max.)
Short-circuit protection	-	Yes
Protection against polarity inversions	-	Yes (>10 s)
Absorbed power	0.8 W	1.3 W
Conversion time	-	440 ms (max): 0 → 100 % & 100 % → 0

Mechanical characteristics

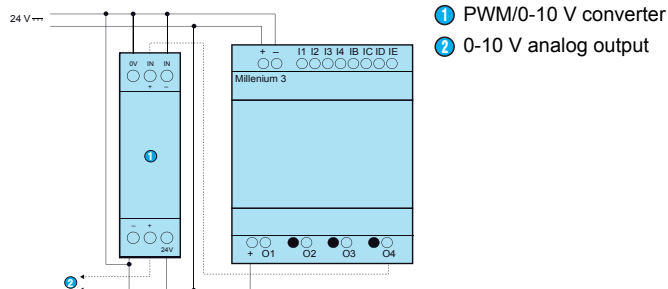
Cable length	-	< 10 m with shielded cable
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Dimensions (mm)

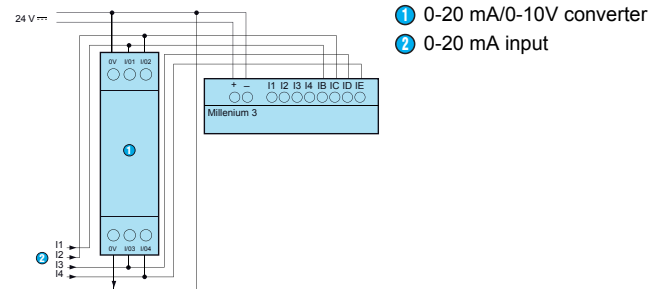


Connections

PWM/0-10 V output converter



0-20 mA/0-10 V input converter



Millenium 3 accessories



→ NTC probes

- Direct connection with no converter on analog input
- Easy-to-use and low-cost temperature control solution
- Fields of application: HVAC, compressors, geothermal systems, swimming pools, fountains
- Analog input configured as a potentiometer via the NTC functions in the M3 Soft (minimum AC5)



NTC PVC probe



NTC probe



NTC stainless probe



POM probe



Silicone probe

Part numbers

Type	Description	Ohmic value	Measurement range	Code
PVC	NTC2 probe PVC for Millenium 3 (24 V \pm 10 %)	10 k Ω @ 25 °C	-25 → +85 °C	89750174
AS	NTC1 probe (batch of 10) for Millenium 3 (24 V \pm 10 %)	10 k Ω @ 25 °C	-25 → +85 °C	89750180
Stainless	NTC2 probe stainless 305 for Millenium 3 (24 V \pm 10 %)	10 k Ω @ 25 °C	-35 → +120 °C	89750182
POM	NTC2 probe silicone for Millenium 3 (24 V \pm 10 %) MOQ 25 pcs	10 k Ω @ 25 °C	-20 → +105 °C	89750185
Silicone	NTC3 probe silicone for Millenium 3 (24 V \pm 10 %)	100 k Ω @ 25 °C	0 → 180 °C	89750186

Accessories

Accessories	Operating temperature	Operating pressure	Code
316 stainless steel protective sleeve	-20 → +400 °C	16 bar	89750147

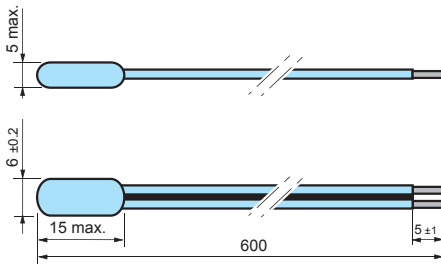
General characteristics

	89750174	89750180	89750182	89750185	89750186
	Precision (Repetability)	Precision (Repetability)	Precision (Repetability)	Precision (Repetability)	Precision (Repetability)
Environmental characteristics					
-35 → +40 °C			$\leq \pm 0.8$ °C ($\leq \pm 0.5$ °C)		
-25 → +40 °C	$\leq \pm 0.8$ °C ($\leq \pm 0.5$ °C)	$\leq \pm 0.8$ °C ($\leq \pm 0.5$ °C)			
-20 → +40 °C				$\leq \pm 0.8$ °C ($\leq \pm 0.5$ °C)	
0 → +40 °C					$\leq \pm 3$ °C ($\leq \pm 1$ °C)
+40 → +50 °C		$\leq \pm 1.2$ °C ($\leq \pm 1$ °C)			
+40 → +70 °C	$\leq \pm 2$ °C ($\leq \pm 1$ °C)		$\leq \pm 2$ °C ($\leq \pm 1$ °C)	$\leq \pm 2$ °C ($\leq \pm 1$ °C)	
+40 → +140 °C					$\leq \pm 2$ °C ($\leq \pm 1$ °C)
+50 → +60 °C		$\leq \pm 1.4$ °C ($\leq \pm 1.4$ °C)			
+60 → +70 °C		$\leq \pm 2$ °C ($\leq \pm 2$ °C)			
+70 → +85 °C	$\leq \pm 3$ °C ($\leq \pm 2$ °C)	$\leq \pm 3$ °C ($\leq \pm 2$ °C)			
+70 → +105 °C				$\leq \pm 3$ °C ($\leq \pm 2$ °C)	
+70 → +120 °C			$\leq \pm 3$ °C ($\leq \pm 2$ °C)		
+140 → +180 °C					$\leq \pm 3$ °C ($\leq \pm 1$ °C)

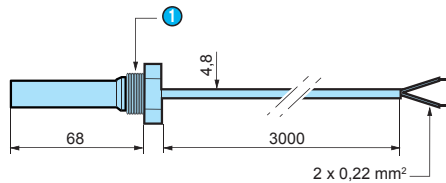
Charcteristics	89750174	89750180	89750182	89750185	89750186
Material	PVC	AS	Stainless	POM (polyoxymethylene)	Silicone
Cable	PVC	2 wires	Silicone (180 °C max.)	PVC (105 °C max.)	Silicone (200 °C max.)
Cable length	3000 mm	600 mm	3000 mm	3000 mm	800 mm
Protection rating	IP67	IP67	IP64	IP67	IP64
Isolation class	-	-	1	2	1
Dielectric strength according to IEC 335	-	1000 V ~ / 1 mn	1250 V ~ / 1 mn	-	2000 V ~ / 1 mn
Dimensions	Flank lead 1/2" Length 68 mm	5 x 6 mm Length 15 mm	Ø 4.8 mm Length 30 mm	Ø 6 mm Length 38 mm	Ø 5 mm Length 17 mm
Analog inputs are configured as a potentiometer in the M3 Soft programming software via the function:					
	NTC2	NTC1	NTC2	NTC2	NTC3

Dimensions (mm)

89750180

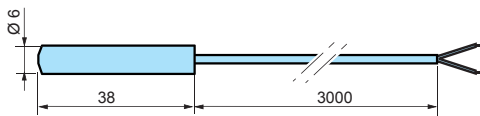


89750174

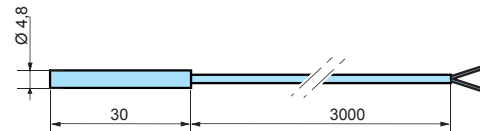


① 1/2 inch thread

89750185



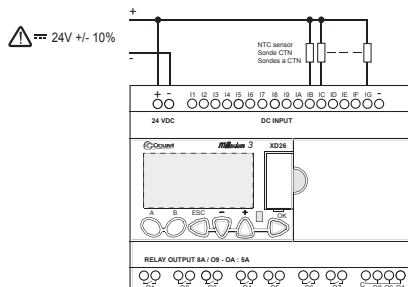
89750182



89750186



Connections



Millenium 3 accessories

→ LDR probe



- Direct connection with no converter on analog input
- Low cost light control solution
- Fields of application:
 - Lighting control
 - Energy saving
 - Building management



Part numbers

Type	Description	Measurement range	Code
AS	Light sensor LDR1 for Millenium 3 (24 V \pm 10 %)	10 → 3000 Lux	89750183

General characteristics

Environmental characteristics

Accuracy	< 10 % of full scale
Peak spectral response	600 \pm 20 nm
Drift Temperature (%/ °C)	0.5 %/ °C
Operating temperature	-20 → +70 °C
Storage temperature	-20 → +70 °C

Mechanical characteristics

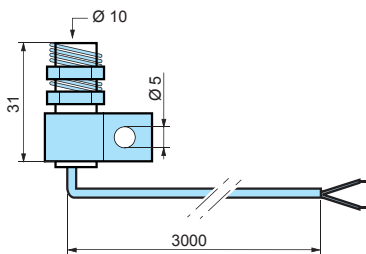
Cable length	3000 mm
Protection rating	IP64
Mounting by screw	Ø 5 mm
Mounting	Hole Ø 10 mm, thickness 9 mm max.

Comments

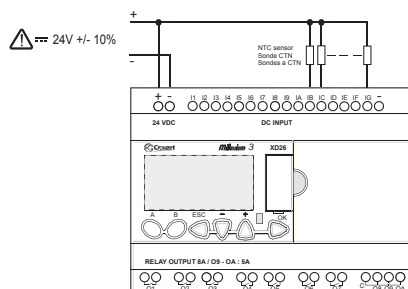
Analog input configured as potentiometer via the function (LUX-1, with M3 Soft software part no.: 88970111).
Probes only available on the Smart range (88974XXX, NB, NBR)

Dimensions (mm)

89750183



Connections



Millenium 3 accessories

→ Temperature sensors

- Integrated converter: 0-10 V output for direct connection to the Millenium 3 analog inputs



Zone/space probe



Ventilation duct



External probe

Part numbers

Type	Description	Range	Accuracy	Supply	Protection casing	Protection probe	Code
AS	Zone/space	-10 → +40 °C	-0.2 °C +1.2 °C	24 V $\overline{\text{---}}$	IP30	-	89750150
	Ventilation duct	-10 → +60 °C	-0.2 °C +1.9 °C	24 V $\overline{\text{---}}$	IP65	IP30	89750151
	External	-10 → +40 °C	-0.2 °C +1.2 °C	24 V $\overline{\text{---}}$	IP65	-	89750152
	Remote/submersible probe	-10 → +150 °C	-0.2 °C +1.2 °C	24 V $\overline{\text{---}}$	IP65	IP67	89750153

Accessories

Accessories	Operating temperature	Operating pressure	Code
316 stainless steel protective sleeve	-20 → +400 °C	16 bar	89750147

General characteristics

Environmental characteristics

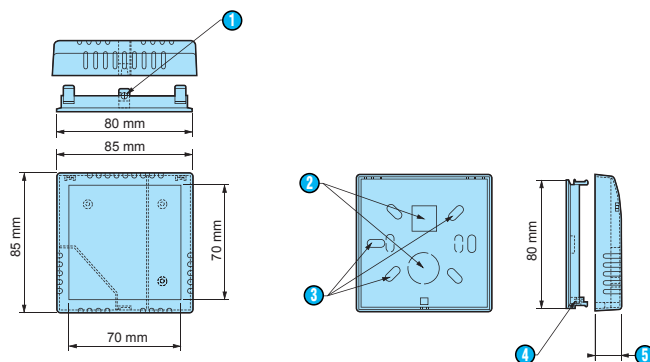
Ambient temperature	-10 → +60 °C
Ambient humidity	5 → 95 % RH
Housing material	Self-extinguishing

Electrical characteristics

Supply voltage	24 V $\overline{\text{---}}$ (± 10 %)
Output	0 → 10 V $\overline{\text{---}}$
Drift Temperature (%/ °C)	0.01 %/ °C of full scale
Temperature coefficients Offset	1.5 mV/ °C

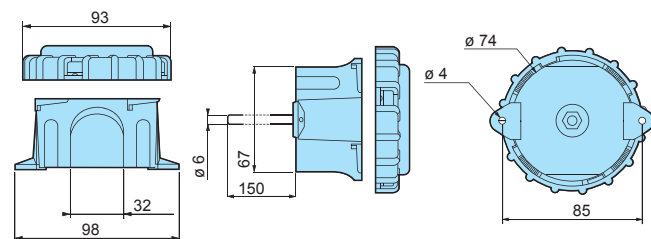
Dimensions (mm)

89750150



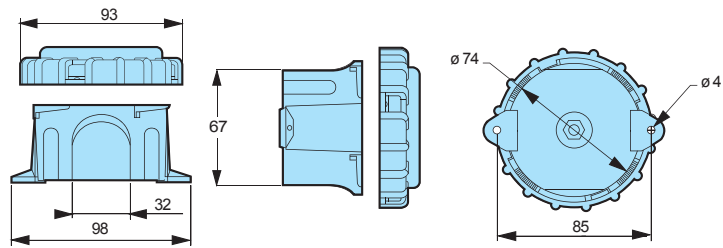
- ① Ø3 mm for M3 x 8 screw
- ② Cut-outs made prior to delivery
- ③ Fixing holes
- ④ Indentation for M3 square nut
- ⑤ Total depth 26 mm

89750151

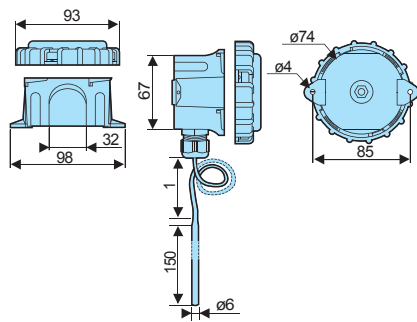


Dimensions (mm)

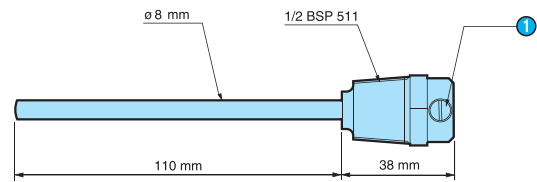
89750152



89750153



Accessory 89750147 for 89750153



1 M4 screw

Millenium 3 accessories

→ Temperature probes



- Thermocouple J:
 - Nickel-plated brass eyelet
 - Stainless steel casing
 - Stainless steel sheath
- Thermocouple K
- Pt100 Class B:
 - Stainless steel sheath
 - Aluminium vee
- Connection/Sub-base/Flange
- Pt100 for use with XA03 and XA04 extension
- Thermocouple for use with temperature converter



Part numbers

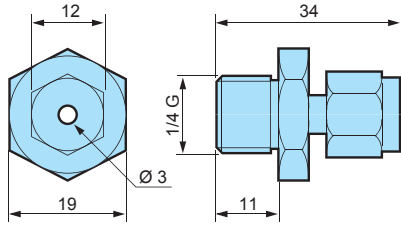
Type	Description	Temperature	Characteristics	Code
Thermocouple /Pt100	Thermocouple probe J	max.: 400 °C	Thermocouple probe J with nickel-plated brass eyelet Ø 6.5 mm, connection sleeve Ø 5 x 30 mm in stainless steel 316 L. Glass filament cable with stainless steel braid: 2 m long Hot junction isolated from earth	79696030
	Thermocouple probe J	max.: 600 °C	Thermocouple probe J with casing St. steel 304 L Ø 3 mm: 500 mm long PVC cable: 2 m long Junction cannot be removed Junction isolated from earth	79696031
	Thermocouple probe J	max.: 400 °C	Thermocouple probe J with sheath ST steel 316 L Ø 5 mm: 30 mm long Glass filament cable with stainless steel braid: 2 m long Junction isolated from earth	79696033
	Thermocouple probe J	max.: 400 °C	Thermocouple probe J with sheath St. steel 16 L Ø 6 mm: 200 mm long Glass filament cable with stainless steel braid: 2 m long Junction isolated from earth	79696032
	Thermocouple probe K	max.: 1100 °C	Thermocouple probe K with casing St. steel 304 L Ø 3 mm: 500 mm long PVC cable: 2 m long Junction isolated from earth	79696034
	Pt100 probe Class B	max.: 200 °C	Pt100 probe Class B with sheath St. steel 316 L Ø 6 mm: 200 mm long Silicon teflon cable: 2 m long 3-wire assembly	79696035
	Pt100 probe Class B	max.: 200 °C	Pt100 probe Class B Aluminium vee: 50 mm long Silicom teflon cable: 2 m long 3-wire assembly - Supplied with fixing clamp	79696037
	Pt100 probe Class B	max.: 400 °C	Pt100 probe Class B with sheath St. steel 316 L Ø 6 mm: 30 mm long Glass filament cable with stainless steel braid: 2 m long 2-wire assembly	79696036

Accessories

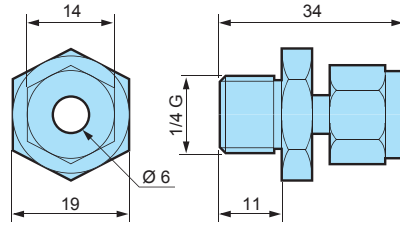
Accessories	Characteristics	Code
Connection	Sliding connection 1/4 " BSP CYL. St. steel 316 L Ø 3 mm	79696038
	Sliding connection 1/4 " BSP CYL. St. steel 316 L Ø 6 mm	79696039
	Sliding connection 1/2 " BSP CYL. St. steel 316 L Ø 6 mm	79696040
Sub-base	Sliding connection 1/4 " BSP CYL Ø 12 mm Nickel-plated steel	79696041
Flange	Inox flange Ø 6 mm	79696042

Dimensions (mm)

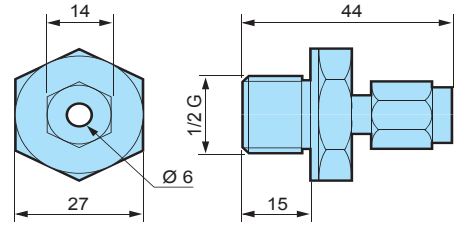
Connection: 79696038



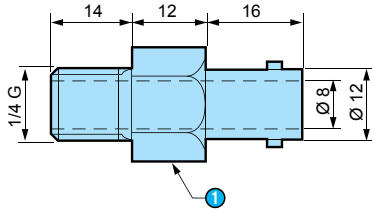
Connection: 79696039



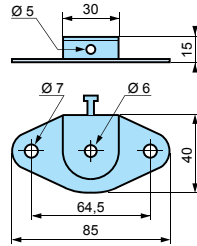
Connection: 79696040



Sub-base: 79696041

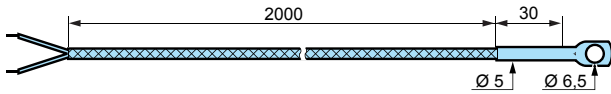


Flange: 79696042

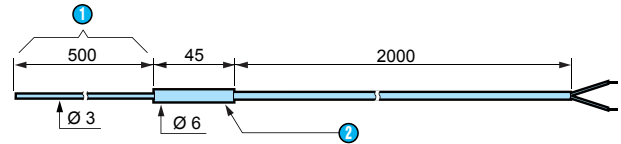


① 17 across flat

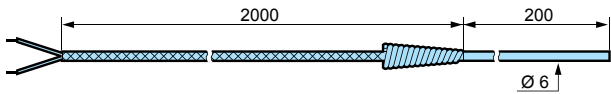
Thermocouple probe J: 79696030



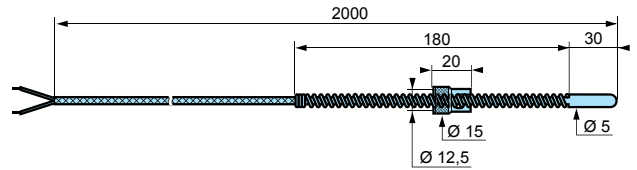
Thermocouple probe J: 79696031



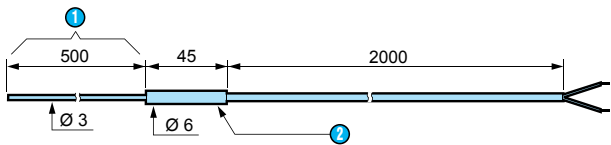
Thermocouple probe J: 79696032



Thermocouple probe J: 79696033

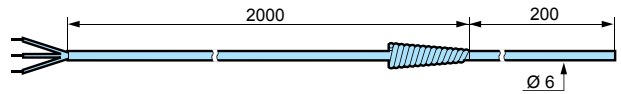


Thermocouple probe K: 79696034

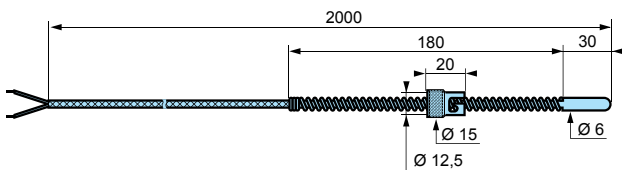


- ① Flexible
- ② Stainless steel sleeve

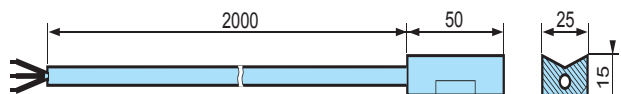
Pt100 probe Class B: 79696035



Pt100 probe Class B: 79696036



Pt100 probe Class B: 79696037



Aluminium vee (This part is removable)