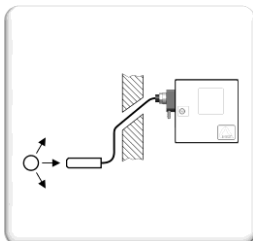


HOT METAL DETECTOR with Optical Fibre



Stato-Sonde

Z66



Smart display for easy & remote setup

High temperature optic

Metallic sheath to protect the fibre

Stainless steel components

E 4186



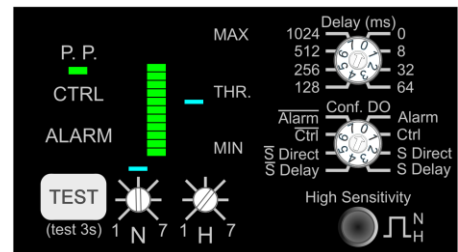
Presentation and operating principle

The **Stato-Sonde Z66**, a Hot Metal Detector with 2 sensitivity ranges, can detect material at temperatures over 300 °C. Thanks to its optical fibre, it is able to detect products even in areas with high ambient temperature or in difficult areas due to physical obstructions, limited space, steam etc... Its rugged design enables the Stato-Sonde Z66 to withstand the very severe environmental conditions of the steel industry or rolling mills or continuous casting machines. The infrared radiation emitted by the hot product is collected by the optic, transmitted through the optical fibre and sent to the photosensitive element. The signal is processed by the electronic circuit which outputs the detection signal.

Features

The Stato-Sonde Z66 is composed of three major elements:

- **Sensor head**
 - 3 different detection angles: **4°** or **12°** or **Spot** 10 mm at 0.5 m (very small precise detection point).
 - standard optic type **N** or optic with water cooling type **C** or optic with water cooling and air purging and additional hood/glass type **CA**.
- **Optical fibre:**
 - Fibre optic bundle with flexible stainless steel protection, length from 2 to 25 m
 - Available with additional protective sheath. Air can be supplied at the electronic unit. The air flow through the sheath and optics keeps the optical fibre and lens assembly at lower temperature.
- **Electronic Sensor Control Unit**
 - 2 sensitivity range (Normal & High) with adjustment potentiometer for each.
 - Smart display with multicolour LED indicator (Product Presence, low detection margin, alarm), bargraph for level of signal, threshold setup.
 - Multiple output selection / configuration delay.
 - 2 inputs: Sensitivity range selection and Test function.



Specifications of Optic

Optic	Z66/●●/S●	Z66/●●/4●	Z66/●●/12●
Detection field			
Operating temperature	-20 °C to 250 °C (0 °F to 480 °F) up to 400 °C (752 °F) with fibre with metallic sheath type G, air purging 40 l/min at 1 bar up to 500 °C (930 °F) with water-cooling, water at about 25 °C (77 °F), 1-2 bar and 1-2 l/min		
Air purging with G fibre Ait purging with F fibre	About 40 l/min @ 1 bar (1,5scfm @ 14 psi), instrument air (clean, dry, no oil) or nitrogen About 10 l/min @ 0.1 bar (0,3scfm @ 2psi), instrument air (clean, dry, no oil) or nitrogen		

Detection temperature (1) °C [°F]	% (2)	Fibre Length (Z66/●●/●●)						
		2 m	3 m	5 m	9 m	12 m	15 m	25 m
Angle 4° and 12°	100%	300 [580]	310 [590]	320 [610]	340 [640]	350 [660]	360 [680]	370 [700]
	20%	360 [680]	370 [690]	380 [720]	400 [760]	420 [780]	430 [810]	440 [830]
	5%	420 [790]	430 [810]	440 [830]	470 [880]	490 [910]	500 [940]	520 [970]
Spot	100%	430 [800]	440 [820]	450 [850]	480 [900]	500 [930]	510 [950]	530 [990]
	20%	520 [960]	530 [980]	550 [1010]	580 [1080]	600 [1110]	620 [1150]	640 [1190]
	5%	610 [1120]	620 [1150]	640 [1190]	680 [1260]	710 [1310]	730 [1350]	760 [1400]

(1): Sensitivity range H (high), sensitivity at position 7 (max) and product emissivity > 0.9
(2): Percentage of field of view filled by hot product

Fibre	Z66/●F/●●	Z66/●G/●●
Type	Fibre alone	Fibre + stainless steel sheath protection–Air conduit
Diameter	10 mm	22 mm
Length	2, 3, 5, 9, 12, 15, 25 m	

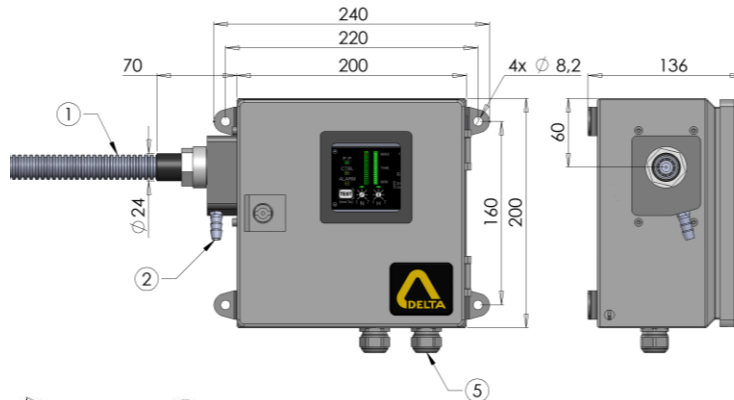


Specifications of Electronic Unit

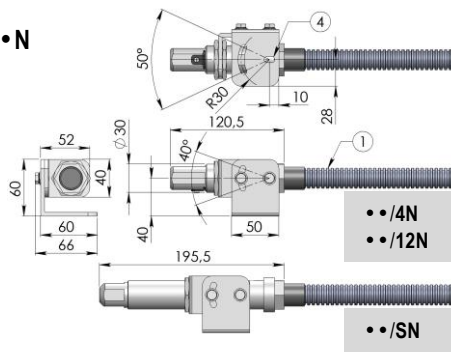
Spectral response	1.0 to 1.7 μm
Response time	< 50 μsec , on or off
3 x Digital outputs 0/24V	Push-pull outputs, low impedance: 50 mA max. short circuit protection - CONF DO, configurable to: Product presence, De-bounce delay, Ctrl (low detection margin)
Relay Detection output	Single pole Normally open; Switching capacity: 550 VA, 250V, 5A max
Static Relay Detection output	2 optocoupled complementary solid state relay ; Switching capacity: +/-100 mA peak, +/-350V peak, 50 Ω
2 x Digital Inputs 0/24V	Test Selection H/N: set the high sensitivity range
Analog Output	Signal amplitude 0-15V (proportional to photocell signal)
Electrical Power	115 V (-15%) to 230 V (+10%), 50/60 Hz, 10 VA 24 VDC (10 to 30 VDC), 10 W
Operating temperature	Sensor Control Unit: -10 $^{\circ}\text{C}$ to 60 $^{\circ}\text{C}$ (14 $^{\circ}\text{F}$ to 140 $^{\circ}\text{F}$)
Protecting rating	IP66 (stainless steel case)
Weight	From 5 kg (Z66/2F/•N) to 6 kg (Z66/2G/•CA) – add 0.5 kg/m for F fibre and 1 kg/m for G Fibre

Dimensions

Z66 Control Unit



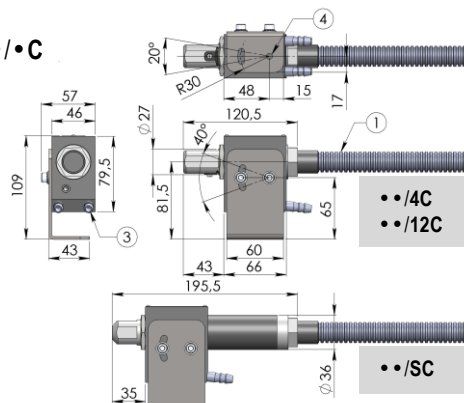
Z66 /••/•N



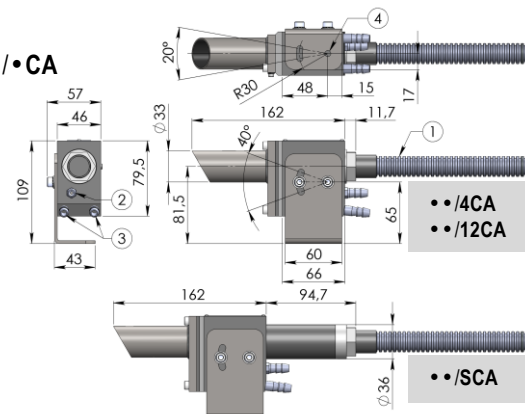
- ① Minimum radius of optical fibre :
- for Z66/•F/•• : 80 mm
- for Z66/•G/•• : 180 mm

- ② Air Supply \varnothing 10
- ③ Water Supplies \varnothing 10
- ④ Mounting with 2 screws M6
- ⑤ PG13.5 cable glands (2), for cable with \varnothing 5-12 mm

Z66 /••/•C

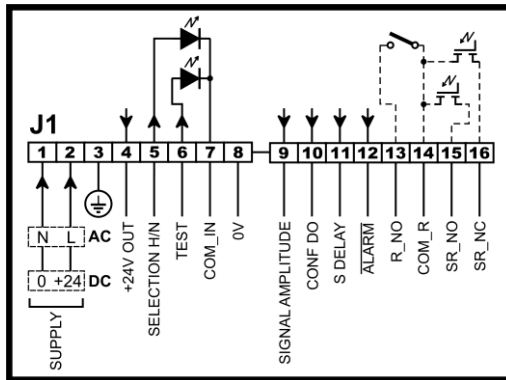


Z66 /••/•CA





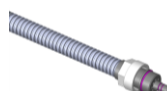
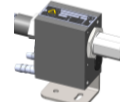



Connection



Reference for order

Stato-Sonde Z66 / ●● / ●● ●●●

Fibre Length	Fibre protection	Detection angle	Optic	Power input
2 2 m 3 3 m 5 5 m 9 9 m 12 12 m 15 15 m 25 25 m	F Fibre alone 	S Spot 4 4° 12 12°	N Standard 	115-230 VAC
	G Fibre with stainless steel sheath protection and air conduit 		C Water cooling 	
			CA Water cooling + air + hood/glass 	24 VDC

Example: Z66/5G/4CA 115-230V: Z66 with optical fibre length 5 m protected in metallic sheath, optic 4° in water cooling unit with air and additional hood/glass, power supply 115-230 VAC.

Accessories

- Battery powered radiant Bar **BR4000**



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