



**Dilas FT**

**FT2000**

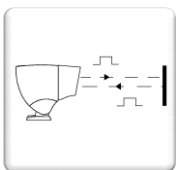


**Measurement up to 50 m directly on the target**

**Measurement on target up to 2372 °F**

**High accuracy independent of the distance**

**Design for steel industry conditions**





## Features and benefits

The **Dilas FT2000** is a digital, high resolution, non-contact laser measurement sensor.

The target may be hot or cold, stationary or moving. **Dilas FT2000** measures on all non-shiny surfaces.

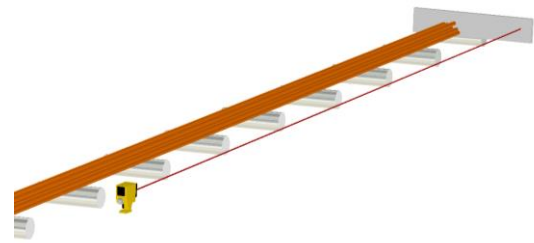
- Measurement range up to 50 m directly on the surface, up to 150 m on white mat surfaces (**FT2300**).
- Target temperature up to 2372 °F (**FT2300**).
- High accuracy:  $\pm 3$  mm up to 30 m.
- 1 mW visible laser beam (class II and class 3R).
- Integrated 4 digits display.
- Sensor configuration with PC software.
- Autonomous sensor: ready to use, no calibration required.
- Water cooling and air purging for the steel industry.

The extra power of the **FT2300** version is particularly indicated for difficult application: low reflective surface, high temperature target.

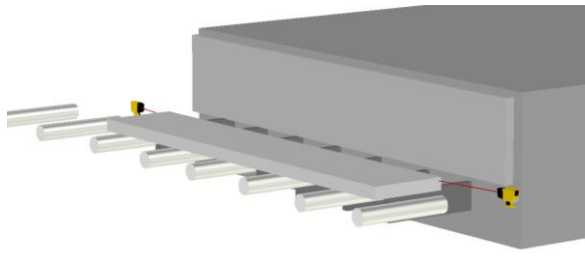
## Typical applications



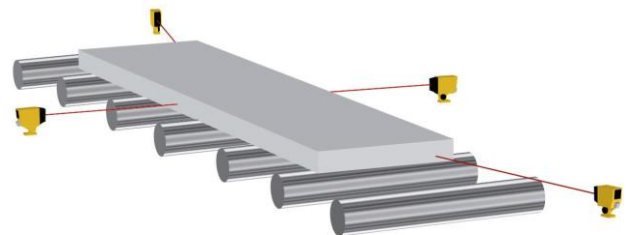
Billet - Bloom length measurement



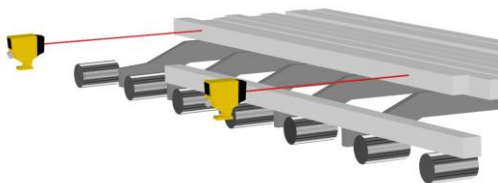
Stop position measurement



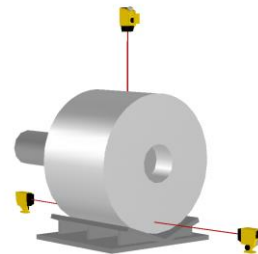
Slab Position control



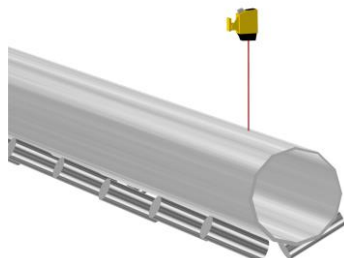
Length - Width measurement



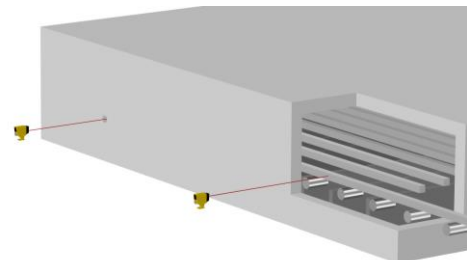
Position control



Coil position control - Coil width and diameter measurement



Tube diameter measurement



Charging of billet - Position control



## Presentation

The **Dilas FT2000** is an autonomous sensor mounted in cast aluminum housing. A hood for protecting the window glass is fitted with an air-jet facility to blow a vertical air curtain in front of this glass. The case is mounted on a cooling plate including a stainless steel pipe and fixed to a mounting stand, adjustable in two axes. The electrical connection is made via a connector. The sensor is delivered already equipped with the corresponding plug with silicone-armored cable (2 m standard length). A digital display at the rear of the sensor indicates the measured distance.



## Operating principle

The operation of the **Dilas FT2000** is based on time of flight measurement. The sensor calculates the distance of the target surface using the time of flight of visible laser light pulses.

## Technical characteristics

Model	FT20**	FT23**
Emitted power (IEC 60825-1)	≤ 1 mW , class 2	≤ 5 mW , class 3R
Measuring Range (1)	0.3 - 30 m up to 100 m on white mat surfaces	0.3 - 50 m up to 150 m on white mat surfaces
Maximum target temperature	1000 °C / 1830 °F	1300 °C / 2370 °F
Accuracy	±3 mm (up to 30 m)	
Sampling time (2)	0.1 s to 1 s, automatic, depending on surface. Typical: 0.25 s - 0.5 s	
Wavelength	630 - 670 nm	

(1) Distances are referred to the front plan of the sensor (see dimensions).

(2) Default setup is *automatic mode*. Other modes are available with fixed sampling time (0.25 s or 0.5 s) by the configuration kit DELTAConf (see accessories).



Laser Class 2  
Laser Class 3R

## Outputs

Model	FT2•06	FT2•07	FT2•26	FT2•27
Measurement output (1)	0 - 10 V (10 mA max.)	4 - 20 mA (500 Ω max.)	0 - 10 V (10 mA max.)	4 - 20 mA (500 Ω max.)
Communication protocol	Serial link (RS485)		Profibus-DP	
Digital outputs: Product presence (2)	Relay : Single pole changeover, Switching capacity : 550 VA: 250 V max, 5 A max			
Digital outputs: Alarm (3)	Static : 0-24 VDC 20 mA (24 V if no failure detected)			
Digital inputs: Laser beam Off/On	0-24 V 15 mA			
Cable	Connector fitted with silicone cable with protective steel braid, Ø13.  Standard length of 2 m (other length : 3, 5 or 8 m)		Connector fitted with silicone cable with protective steel braid, Ø19 (including IN and OUT Profibus cables). Standard length of 2 m (other length : 3, 5 or 8)	

(1) Linearity 0.1% - Temperature drift: 50 ppm/°C.

The range of the analogue output can be set with the configuration kit **DELTAConf** (see accessories) or serial line (0 - 10 m default).  
For sensors with Profibus, the range is fixed (0 - 30 m).

(2) The product presence distance can be set with the configuration kit **DELTAConf** (see accessories) or serial line (0 - 10 m default).  
For sensors with Profibus, the range is fixed (0 - 30 m).

(3) Power supply default, internal temperature over 131 °F, Error Code

## Other Data



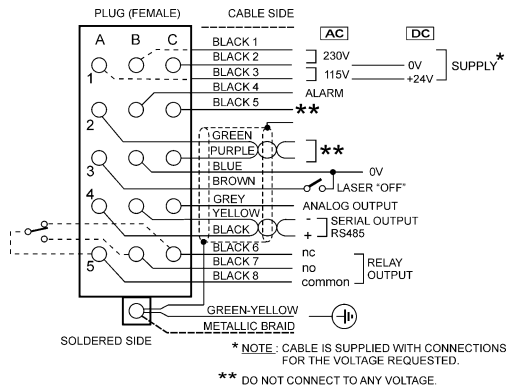
Operating voltage	220 V (-10%) to 230 V (+10%) - 50 / 60 Hz or 110 V (-10%) to 115 V (+10%) - 50 / 60 Hz or 24 V DC (±10%)
Power consumption	10 VA for AC versions / 5 W for 24VDC version
Weight	7 kg
Protection rating	IP 66 (cast aluminium case)
Air Purging	Protection of the optic with clean air : 50 to 200 g/cm <sup>2</sup> , 4 to 16 l/min
Working temperature	14 °F to 122 °F without cooling; Up to 250 °F, with water cooling: industrial quality water at about 77 °F, pressure 1-2 bar and flow 1-5 l/min

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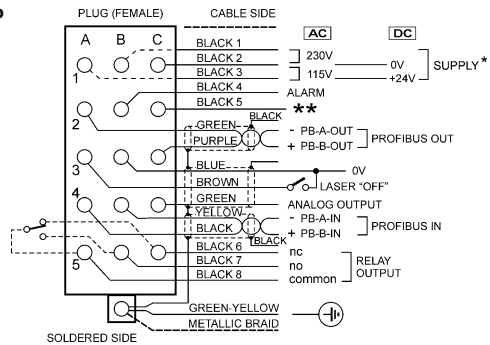


## Connection

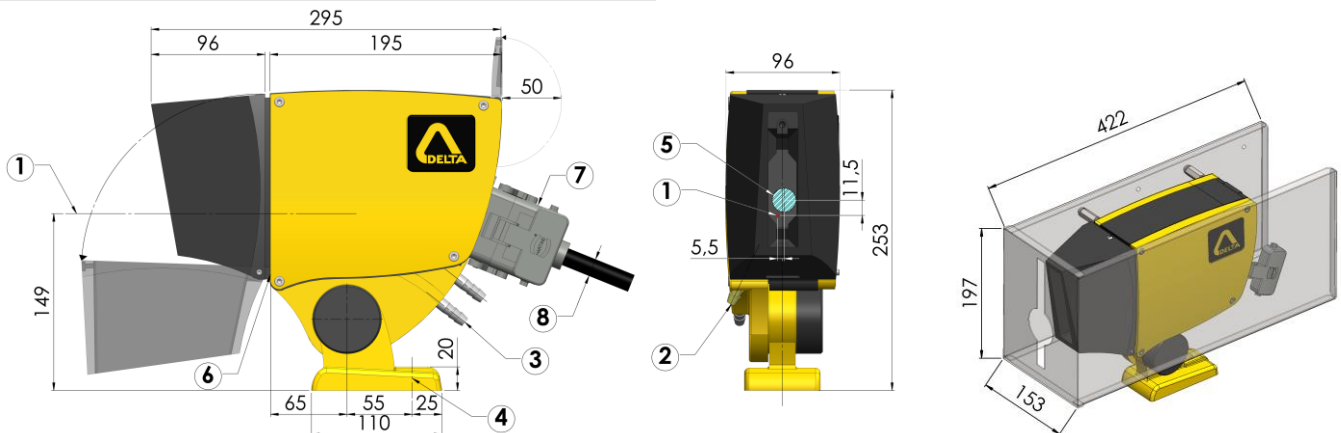
### RS485



### Profibus DP



## Dimensions



Optional **Heat Shield** to limit direct heat radiation

## Reference for order

### DILAS FT2•••

<i>Laser</i>
0 : class 2
3 : class 3R

<i>Protocol</i>
0 : RS485
2 : Profibus-DP

<i>Analogue Output</i>
6 : voltage 0-10V
7 : current 4-20 mA

<i>Supply voltage</i>
24 VDC
115 V
230 V

Example: **FT2007 230VAC**

## Accessories

- Option: **Heat shield** - Order reference: 7592576
- Option: Configuration kit **DELTAConf** (not compatible with Profibus version): a Windows based software with cable, connector and USB/RS485 interface to access the parameters of the sensor - Order reference: CK-USB 230V, CK-USB 115V or CK-USB 24VDC

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Subject to change without prior notice

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