Digital infrared thermometer with fibre optic designed for the glass industry

IS 50-LO/GL

CE

- Adjustable temperature ranges between 600 and 1800°C

- High accuracy

- Ambience up to 250°C without cooling

- Robust design

- Simple parametrizing

- Integrated air purge

- Quick release for optical head

- Two wire technique

The pyrometer **IS 50-LO/GL** is specially designed for the glass industry. It is used for the temperature measurement of glass in tank, working end, forehearth and feeder. Additional applications are the measurement of brickworks in regenerator and tank.

Using a robust fiber optic cable (length up to 30 m) enables the use

of the instrument in an ambient temperature up to 250°C without cooling.

The IS 50-LO/GL is a digital pyrometer in **two wire technique**. This technique combines the high accuracy of the digital signal processing with the simple connection and operating with two wires.

The emissivity is exactly adjustable at the device, additionally any sub range and the response time via service interface. The instrument is equipped with a test function to check the correct connection.

Technical Data

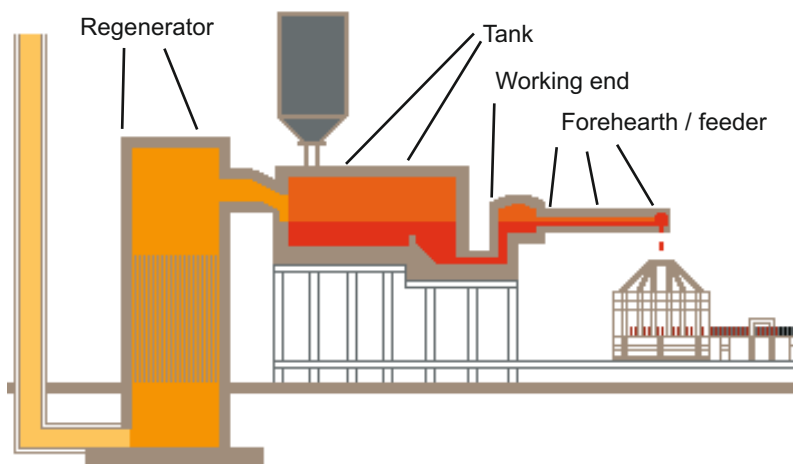|	
Temperature range:	600 ... 1800°C
Sub range:	any range adjustable within the measuring range, minimum range 51°C
IR-detector:	Silicon photo diode
Spectral range:	0.8 ... 1.1 µm
Data handling:	Digital
Uncertainty:	< 1500°C: ± 0.3% of meas. value in °C + 1°C
	> 1500°C: ± 0.5% of meas. value in °C + 1°C
Repeatability:	0.1% of measured value in °C + 1°C
Resolution:	1°C
Emissivity ε:	0.05 ... 1.00; adjustable
Response time t_{90}:	250 ms, adjustable up to 10 s; ex works adjusted to 1 s
Test port:	4 ... 20 mA, temperature linear
Max. load:	700 Ohm at 24 V power supply
Temperature dependency:	0.2°C per °C variation from 23°C
Power supply:	24 V DC ± 25%, ripple max. 50 mV
Power consumption:	0.6 W
Interface:	Service interface RS232
Parameter settings:	Emissivity, test signal 12 mA
Additional parameters via interface:	Measuring range, response time
Protection:	IP65 with mounted cable
Ambient temperature:	0 ... 70°C at the housing
Storage temperature:	-20 ... 70°C
Rel. humidity:	Non condensing conditions
Converter housing:	Alu die-casting, 125 mm x 80 mm x 57 mm (L x W x H, without plug)
Optical head:	Stainless steel, 112 mm x 22 mm
Fiber optic:	Multi fiber with flexible stainless steel protection
Weight:	600 g
CE-label:	According EU rules for electromagnetic immunity

Typical Applications

Glass temperature measurement
- in forehearth
- in feeder
- in tank
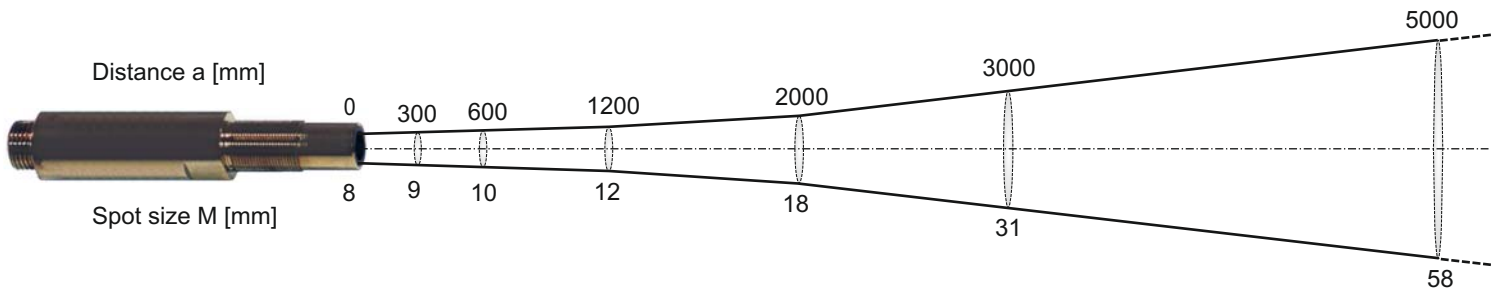
Temperature measurement of brickworks
- tank side walls
- tank roof
- in regenerator

The different sighting tubes enable to adapt the pyrometers optimally to the different applications. For an easy installation of the pyrometers it is possible to separate the optical head and converter from the fiber optic.

Measuring Distance and Spot Sizes

Distance a [mm]

0   300   600   1200   2000   3000   5000

Spot size M [mm]

8   9   10   12   18   31   58

Reference Numbers

Pyrometer:
3 857 900   IS 50-LO/GL,   600 ... 1800°C, with fibre optic 5 m and optical head

Scope of delivery:
Converter, optical head, fiber 5 m
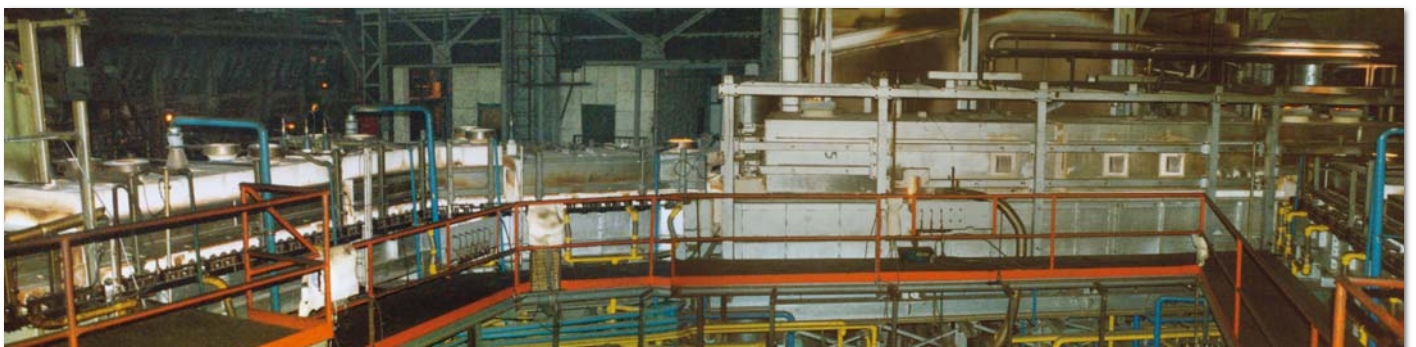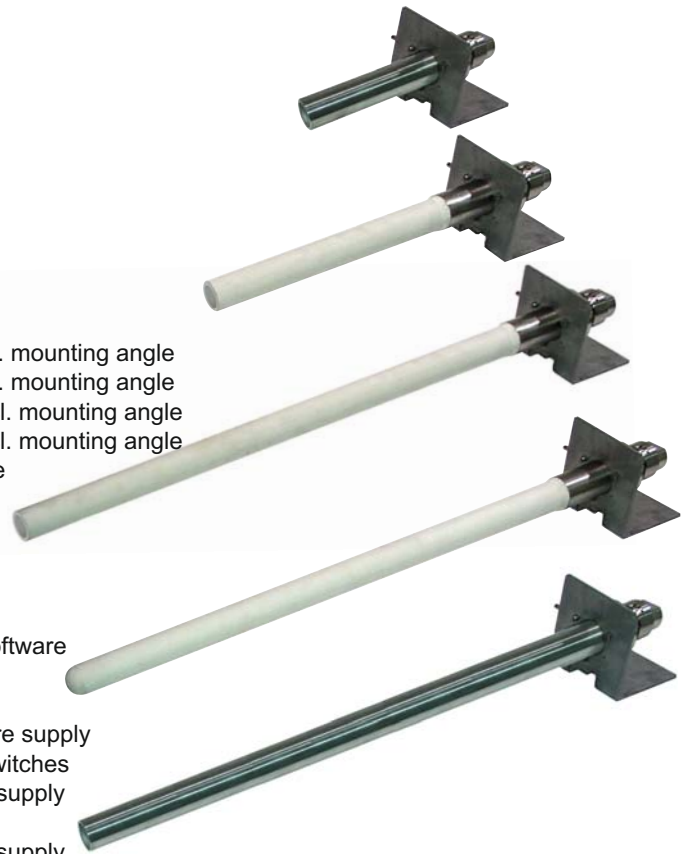(a connection cable is not included in scope of delivery.)

Accessories:
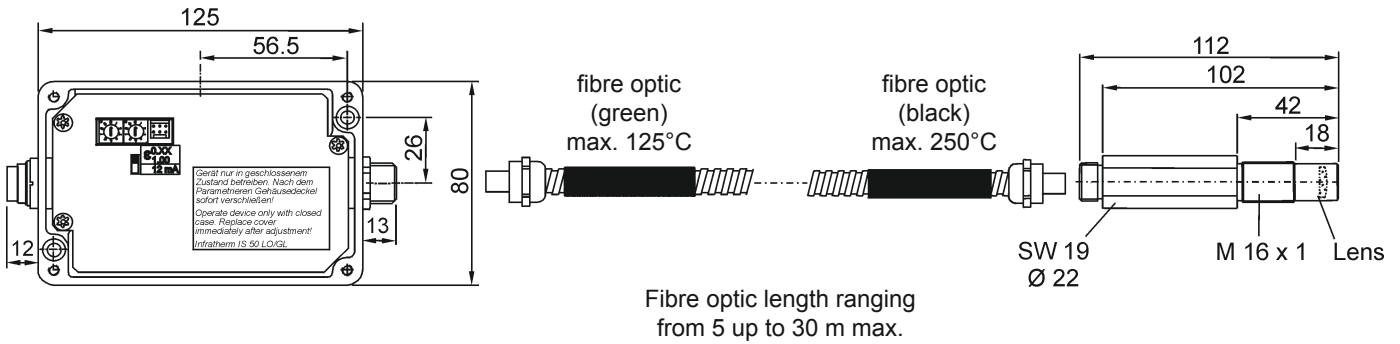|	
3 820 650	Connection cable, length 5 m
3 820 660	Connection cable, length 10 m
3 820 670	Connection cable, length 15 m
3 820 680	Connection cable, length 30 m

On request: Other length of fiber optic: 10 m, 15 m and 30 m

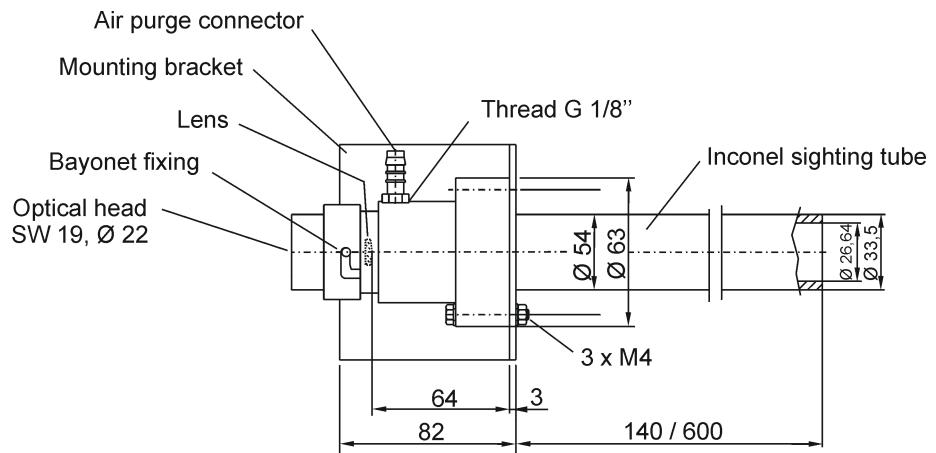|	
3 835 300	Air purge unit with inconel tube, 140 mm, open, incl. mounting angle
3 835 380	Air purge unit with inconel tube, 600 mm, open, incl. mounting angle
3 835 310	Air purge unit with ceramic tube, 300 mm, open, incl. mounting angle
3 835 370	Air purge unit with ceramic tube, 600 mm, open, incl. mounting angle
3 835 390	Ceramic tube, 600 mm, closed, incl. mounting angle
3 835 400	Air purge unit incl. mounting angle

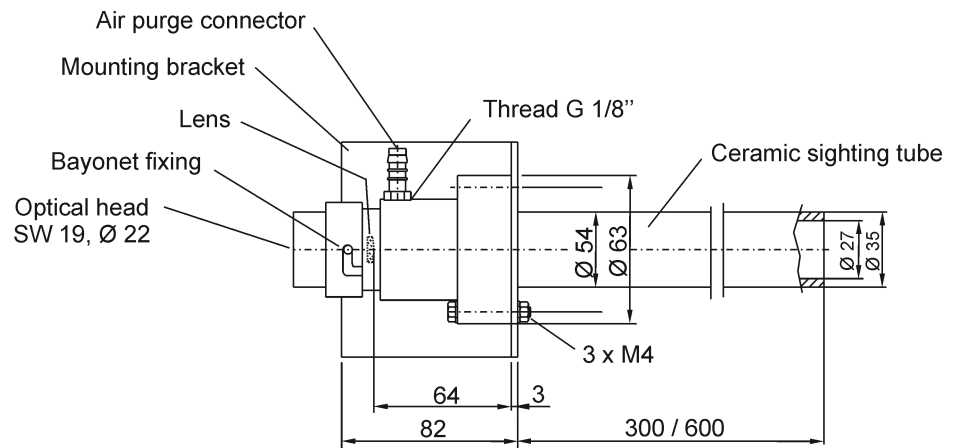|	
3 836 900	Spare ceramic tube, 300 mm, open
3 836 700	Spare ceramic tube, 600 mm, open
3 836 710	Spare ceramic tube, 600 mm, closed
3 820 370	RS232 adapter cable for HT 6000 or PC incl. PC software
3 820 980	RS232 adapter cable HT 6000
3 890 600	Din-rail power supply
3 890 640	DA 4000-N: LED digital display with integrated 2 wire supply
3 890 650	DA 4000: like DA 4000-N, additionally with 2 limit switches
3 890 520	DA 6000: LED digital display with integrated 2 wire supply and serial interface RS232
3 890 530	DA 6000: LED digital display with integrated 2 wire supply and serial interfaceRS485
3 826 500	HT 6000: Battery driven, portable parametrizing unit
3 863 010	Converter IW 5-C (4 ... 20 mA in 0 ... 20 mA)

Air purge with inconel tubes:

Air purge with ceramic tubes:

Specifications are subject to change without notice