

PSC-SF30NG / PSC-SF34NG Pyrometer Series



PROCESS SENSORS
CORPORATION
a KPM brand

FIBER OPTIC PYROMETER FOR THE GLASS INDUSTRY

OVERVIEW

Digital pyrometers PSC-SF30NG / PSC-SF34NG are especially designed for applications in the glass industry. These pyrometers are ideal for temperature measurement in glass tanks, forehearths and feeders.

The robust cast housing with flanged tabs allows for ease of installation and can be located up to 98ft (30m) from the optical lens assembly. The special mono fiber optic cable is rated for ambient temperatures of up to 250°C (482°F).

A rugged stainless steel air purge with mounting bracket and either an alumina or inconel sight/target tube assembly allows for operation in dirty environments.

The optical lens can be easily cleaned or replaced. The PSC-SF30NG produces a linear 4-20mA output signal that can be easily incorporated into existing measurement and control systems.

The PSC-SF30NG is equipped with a USB interface, while the PSC-SF34NG features an RS485 interface connection. IR sensor parameters such as emissivity, sub range, response time and peak picking can be easily adjusted by the PSCspot software.



PSC-SF30NG / PSC-SF34NG FEATURES

- Wide temperature range from 600° to 1800°C (1112° to 3272°F)
- Loop-powered sensor with 4-20mA output (PSC-SF30NG)
- Simple installation and operation
- High accuracy
- Robust air purge design for maintenance-free operation
- Digital RS485 communication (PSC-SF34NG)
- Integrated peak picker

TYPICAL APPLICATION AREAS

- Glass temperature measured
 - In forehearth
 - In feeder
 - In glass tank
 - Gobs
- Temperature measurement of refractory
 - Tank side and bridge walls
 - In regenerator/throat area
 - Melt tank crown



TECHNICAL DATA

Type	PSC-SF30NG	PSC-SF34NG
Temperature Range	600°C to 1800°C	600°C to 1800°C
Sub temperature Range	Adjustable within temperature range, minimum span 50°C	
Spectral Range	0.8 µm to 1.1 µm	0.8 µm to 1.1 µm
Optics	FOH-G, aperture diameter D=0.43 in. (11 mm)	
Distance Ratio	> 100 : 1	
Measurement uncertainty	0.3 % of meas. value in °C + 1°C	
Repeatability	0.1 % of meas. value in °C + 0.5°C	
NETD ¹	0.1°C	
Response Time (t ₉₅)	10 ms, adjustable up to 10 s	
Emissivity	Adjustable, 0.05 to 1.00	
Test Signal	12 mA, switchable at the device	
Output	4...20 mA, temperature linear, max. load: 700Ω at 24V	
Interface	Galvanically isolated USB interface	RS485, half duplex, galvanically isolated
Software	PSCspot for Windows®	
Aiming	None	
Parameters	Adjustable via interface and software (emissivity, response time, temperature unit °C or °F, sub range)	
Power Supply	24V DC ± 25%	24V DC ± 25%
Power Consumption	max 0.6 W	max 1.5 W
Operating Temperature	0°C to 70°C (pyrometer), up to 250°C (fiber cable and optical head)	
Storage Temperature	-20 °C to 70 °C	
Weight	Approx 500 g (without fiber cable and optical head)	
Dimensions	Approx 4.33" x 2.76" x 1.18" (110 mm x 70 mm x 30 mm)	
Housing	Aluminum cast housing	
Safety Class	IP 65 (DIN 40 050) and EN 60529	
CE-Symbol	According to EU regulations (EN 50 011)	
Scope of Delivery	PSC-SF30NG/PSC-SF34NG, manual, inspection sheets, software PSCspot for Windows® (without connecting cable, fiber optic cable and optical lens assembly, please order separately)	

ACCESSORIES, MECHANICAL, ELECTRICAL AND OPTICAL¹

Connecting Cable 3-Pin	Length 16.4 ft. (5 m), 32.8 ft. (10 m), 49.2 ft. (15 m), 65.6 ft. (20 m), 82.0 ft. (25 m), or 98.4 ft. (30 m) (for SF-30NG)
Connecting Cable 12-pin	Length 16.4 ft. (5 m), 32.8 ft. (10 m), 49.2 ft. (15 m), 65.6 ft. (20 m), 82.0 ft. (25 m), or 98.4 ft. (30 m) (for SF-34NG)
USB-Connecting Cable	Length 5.9 ft. (1.8 m) (for SF 30NG)
Fiber cable (stainless steel sheathed)	Length 16.4 ft. (5 m), 19.7 ft. (6 m), 24.6 ft. (7.5 m), 32.8 ft. (10 m), 49.2 ft. (15 m), 65.6 ft. (20 m) or 98.4 ft. (30 m)
Power Supply	24 VDC/1A
Air Purge Unit for FOH-G	Without sight tube, incl. mounting bracket
Air Purge Unit for FOH-G	With Inconel® sight tube, 5.5 in. (140 mm), incl. mounting bracket
Air Purge Unit for FOH-G	With Inconel® sight tube, 23.6 in. (600 mm), incl. mounting bracket
Air Purge Unit for FOH-G	With ceramic sight/target tube, 11.8 in. (300 mm), incl. mounting bracket
Air Purge Unit for FOH-G	With ceramic sight/target tube, 23.6 in. (600 mm), incl. mounting bracket

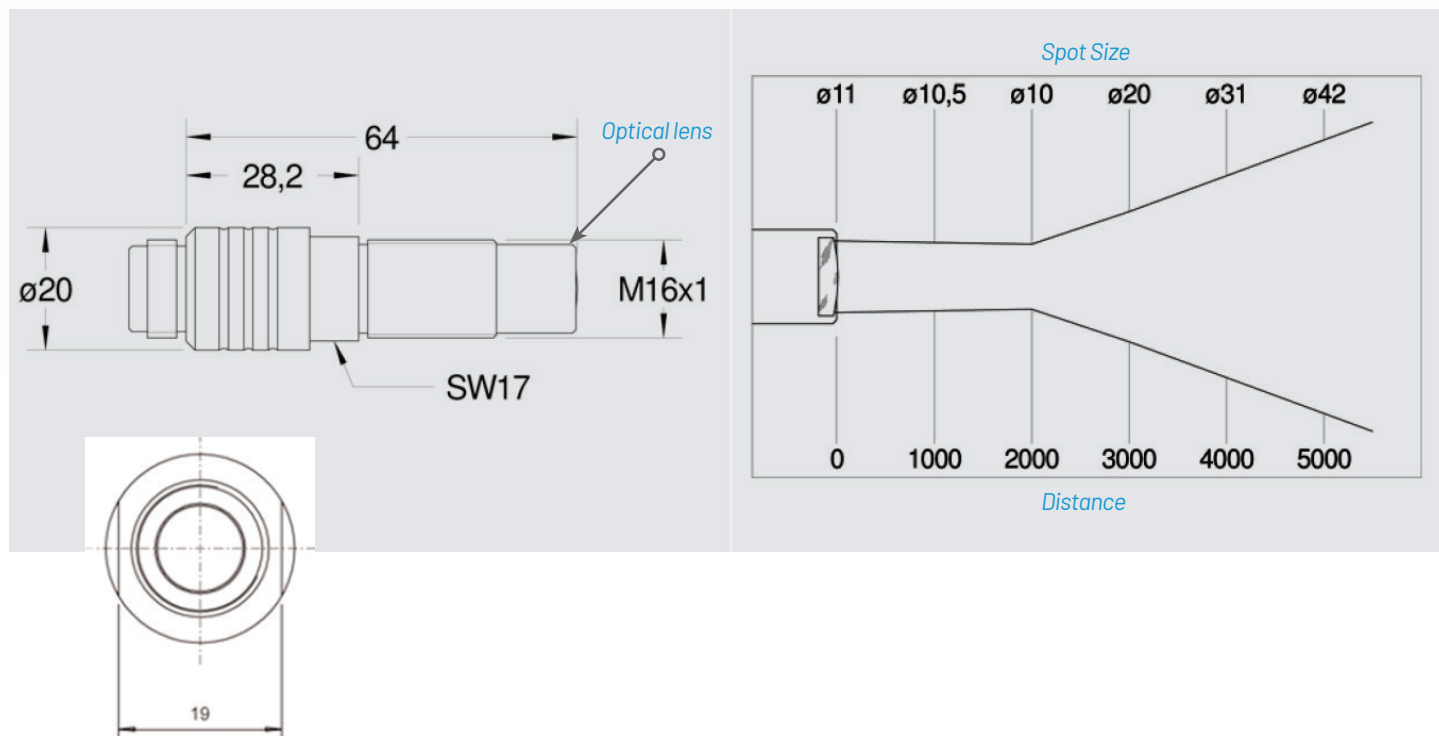
PSC-SF30NG / PSC-SF34NG



OPTICS TYPE FOH-G

Measuring distance a in inches (mm)	0 (0)	19.66 (500)	39.37 (1000)	78.74 (2000)	118.11 (3000)	157.48 (4000)	196.85 (5000)
Measuring field diameter M in mm							
PSC-SF30NG/34NG (600°C to 1800°C)	0.43 (11)	0.42 (10.7)	0.41 (10.5)	0.39 (10)	0.79 (20)	1.22 (31)	1.65 (42)

FIELD OF VIEW (FOV) GRAPH



PSC-SF30NG / PSC-SF34NG

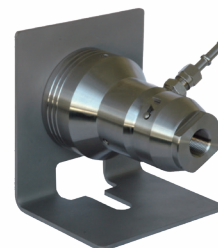
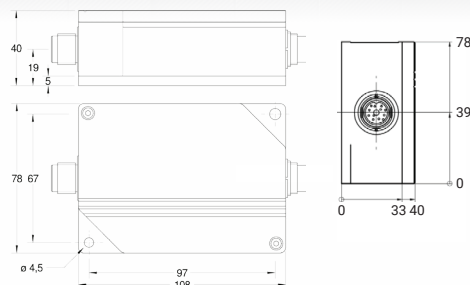
ACCESSORIES - CONNECTION CABLES

Part Number	Description	
Connection cable, 3-pin (for PSC-SF30NG)	Connection cable, 12-pin (for PSC-SF34NG)	
PSC-3310A15311	PSC-3310A11111	Pyrometer cable; length 2 m
PSC-3310A15312	PSC-3310A11112	Pyrometer cable; length 5 m
PSC-3310A15313	PSC-3310A11113	Pyrometer cable; length 10 m
PSC-3310A15314	PSC-3310A11114	Pyrometer cable; length 15 m
PSC-3310A15315	PSC-3310A11115	Pyrometer cable; length 20 m
PSC-3310A15316	PSC-3310A11116	Pyrometer cable; length 25 m
PSC-3310A15317	PSC-3310A11117	Pyrometer cable; length 30 m

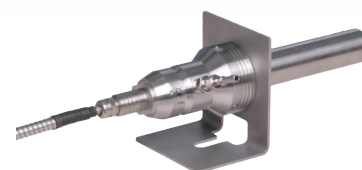
ADDITIONAL ACCESSORIES

Part Number	Description
PSC-3310A42104	Fiber optic cable, stainless steel coating, twist proof; length 5 m
PSC-3310A42109	Fiber optic cable, stainless steel coating, twist proof; length 6 m
PSC-3310A42105	Fiber optic cable, stainless steel coating, twist proof; length 7.5 m
PSC-3310A42106	Fiber optic cable, stainless steel coating, twist proof; length 10 m
PSC-3310A42107	Fiber optic cable, stainless steel coating, twist proof; length 15 m
PSC-3310A42108	Fiber optic cable, stainless steel coating, twist proof; length 20 m
PSC-3310A50090	Lens assembly; FOH-G
PSC-3310A21530	Lens in retainer cap for FOH-G (spare part)
PSC-950-004	Power supply PSU 15, 24 V DC/0.6A
PSC-3310A22529	Air purge unit for FOH-G including mounting bracket
PSC-3310A25010	Inconel® tube, 140 mm
PSC-3310A25020	Inconel® tube, 600 mm
PSC-3310A25050	Ceramics tube, 300 mm, opened end
PSC-3310A25060/ PSC-3310A25070	Ceramics tube, 600 mm, opened end/closed end

PYROMETER DIMENSIONS IN MM



Mounting bracket with air purge assembly

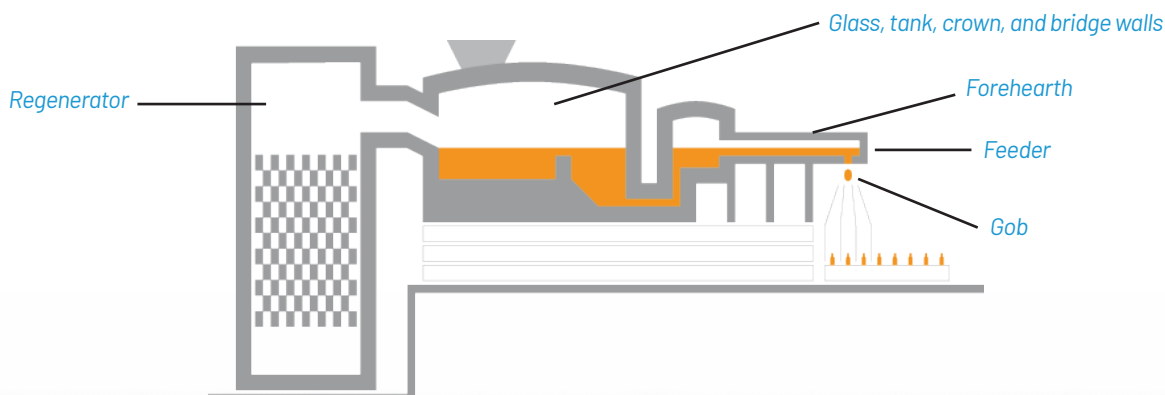


Heavy duty fiber optic air purge with Inconel® sight tube



Programming cable for PSC-SF30NG

TYPICAL APPLICATIONS FOR THE PSC-SF30NG / PSC-SF34NG PYROMETERS



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