

FEATURES

- Oxygen pressure range 2 mbar...3 bar
- Zirconium dioxide (ZrO_2) sensing elements
- Non-consumptive technology
- Integral heating element
- No need for temperature stabilisation
- No reference gas required
- Function testing and calibration in ambient air
- High accuracy
- Linear output signal
- Operates with external interface boards



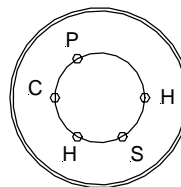
SPECIFICATIONS

Maximum ratings

Heater supply voltage ¹	4.35 ±0.1 V _{DC} (1.85 A)
Stand by	2.0 V _{DC} (0.85 A)
Pump resistance @ 700 °C ²	6 kΩ
Permissible gas temperature ³	
XYA1	-100...400 °C
all others	-100...250 °C
Gas flow rate	0...10 m/s
Repetitive permissible acceleration	5 g
Incidental permissible acceleration	30 g

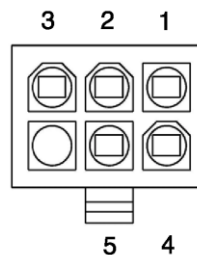
ELECTRICAL CONNECTION

Stainless steel wires (XYA1S)



P: Pump
C: Common
S: Sense
H: Heater

Molex connector (XYA...M)



1: Pump (Red)
2: Common (Black)
3: Heater (Yellow)
4: Sense (Blue)
5: Heater (Yellow)

Note:

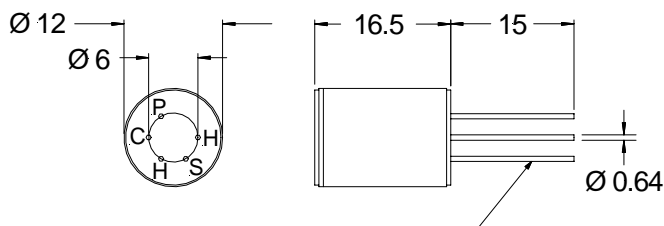
1. It is important to measure the heater voltage as close to the sensor as possible due to voltage drops in the supply cable. The heater can also be operated with an equivalent AC or PWM signal.
2. The constant current source used in the pump circuit should be designed to drive a load of up to 6 kΩ.
3. For gas temperatures above 200 °C the heater supply voltage has to be decreased accordingly.

PERFORMANCE CHARACTERISTICS

Characteristics	Min.	Typ.	Max.	Unit
Oxygen pressure range	2		3000	mbar
Accuracy			5	
Internal operational temperature		700		°C
Stand by temperature		500		
Response time (10 to 90 %)			4	s
Warm up time (prior to sensor operation)			100	
Warm up time (from stand by)			20	

OUTLINE DRAWING

XYA1S



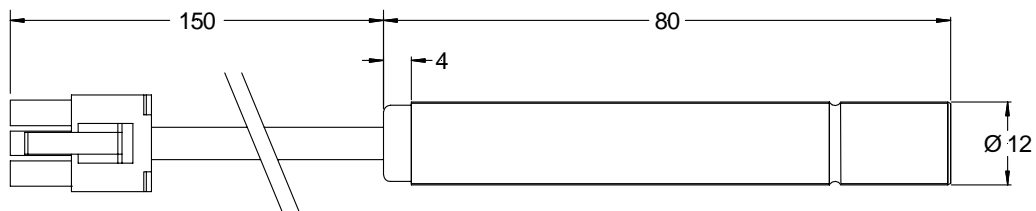
Note: Sensor pins are NOT designed to be soldered to. Preferred method of connection is to crimp onto pins.

mass: 4 g

Ni-plated stainless steel wires

dimensions in mm

XYA2M



mass: 24 g

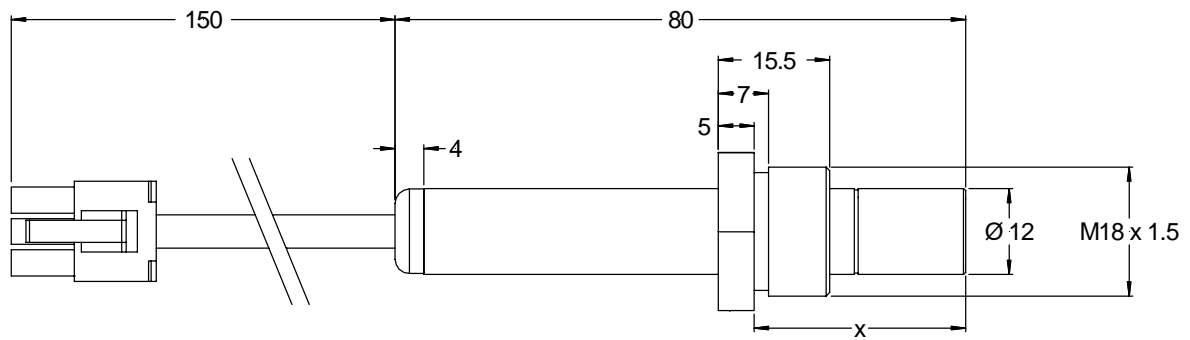
dimensions in mm

XYA Series

Oxygen sensors

OUTLINE DRAWING (cont.)

XYA5M, XYA6M, XYA7M



x = 28 mm for XYA5...
 x = 45 mm for XYA6...
 x = 55 mm for XYA7...

dimensions in mm

mass: 48 g

ORDERING INFORMATION

Options	Series		Housing type	Termination
	XYA		1S	cylinder
		2M	probe	Molex connector*
		5M	screw fit probe, M18 x 1.5 (28 mm sensor header)	Molex connector*
		6M	screw fit probe, M18 x 1.5 (45 mm sensor header)	Molex connector*
		7M	screw fit probe, M18 x 1.5 (55 mm sensor header)	Molex connector*
				* Molex mating connector: 39-01-2061 (plastic plug) 39-00-0041 (pins)
Example:	XYA	2M		

Note: Custom specific options are available. Please contact First Sensor for further information.

First Sensor reserves the right to make changes to any products herein. First Sensor does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.