

Fig. 1



Fig. 2

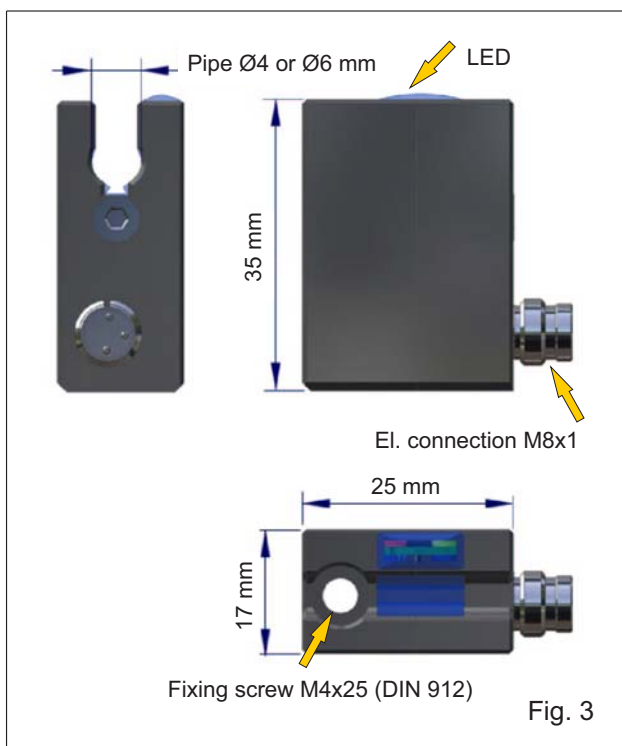


Fig. 3

Oil streak sensor Series N860

Programmable optical sensor version 10.0 S 4.1

Image Fluid Sensor IFX -C04 -C06 (Patent Pending)

Application:

Used for the automatic control of oil flow in air+oil lubrication systems.

Suitable for installation on transparent pipes.

- **Electronic optical monitoring of air+oil mixture.**
- **Detection of image variation.**
- **Optical indicator through LED.**
- **High checking precision, quick reaction time.**
- **Easy installation on different flexible transparent pipes.**
- **Suitable for pipe Ø 4 and Ø 6 mm.**
- **Change of the internal program on demand.**

Function:

The streak sensor *IFX*, directly installed on the air+oil transparent pipe, detects the continuity of the oil flow in OL lubrication systems. The sensor is equipped with a light emitting diode, which projects a beam on an electronic receiver with electronic smart card.

Any image variation of the flowing air+oil mixture is detected and processed according to a patented and advanced technology. The pre-set value, which refers to the normal standard flow, determines the lighting of a green LED. The possible flow interruption or a miss shot of the air+oil mixer can cause a fault message that is optically indicated by a red LED.

Technical data:

Minimum controlled flow rate with pipe Ø 4 mm:

- static signal (continuous flow): 300 mm³/h
- dynamic signal 10 mm³/stroke

Mounting position: max 10 cm from the mixer (see Fig.6)

El. connection:	M 8x1, 4 poles
Power supply voltage:	12-24 V DC ±20%
Max. absorption:	30 mA
Output connection:	PNP
Output-Signal:	NC (standard) or NO
Protection class (according to EN 60529):	IP 67
Installation:	any
Operating temperature:	+10 ÷ +60 °C
Materials:	
Body:	Al
Tropicalized electronics and optics:	PA 12 oil resistant
EMV EN 61000-4-2ESD	4 kV CD/ 8 kV AD
EN 61000-4-3 HF radiated	10V/m
EN 61000-4-4 Burst	± 1-2 kV/m
EN 61000-4-5 Surge	± 1-2 kV/m
EN 61000-4-6 HF conducted	3V

- Subject to changes without notice -

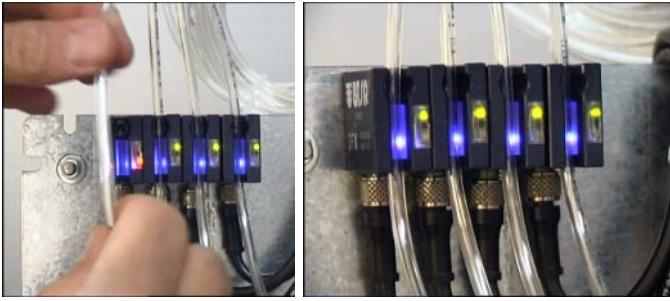
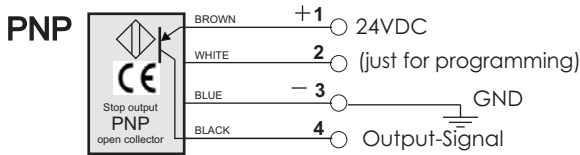


Fig. 4

Connection scheme



Assembly:

Oil streak sensors can be installed in rows. The transparent pipe must be inserted as represented in the picture and then the protection cap has to be mounted on (Fig. 1). After having started up the sensors and while they are working it is possible to check the red and green LED (Fig. 4). The sensor should be mounted so that LEDs are easily visible.

Electric connections:

Connect the oil streak sensors according to the connection scheme beside.

Attention: always connect the entrance (-3) to earth (GND).

Function of the LEDs:

The streak sensors are equipped with two LEDs (green and red), whose function is described in the beside table.

The streak sensors emit a blue light which make easier the optical checking.

The starting value is set from the factory. Different values of the internal parameters can also be set with an external device or a specific software.

The programming unit SMART/IFX and the software PC Link Flux are available as accessories to change and check the internal parameters (see Accessories).

The IFX sensors make possible the immediate stopping of the machines and the activation of testing devices such as solenoid valves, or other devices.

The "Touch Light" button makes possible the automatic numbering of the sensors (in case of use of several sensors). It is possible to identify sensors and check the program uploaded on them. In this case you need the programming unit Smart IFX or the PC Link Flux software.

Mounting position: distance max 10 cm from the air+oil mixer. Fastening to the mixer by means of a mounting plate (Fig. 6).

Sensor condition	LED		Output-Signals (4)	
	Green	Red	PNP	
Normal operation	AN	AUS	Open	+ 24 V
Fault signal	AUS	AN	+ 24 V	Open

Fig. 5

	Green LED on	Normal operation: lubricant is flowing inside the system No error message detected by the sensor.
	Green and red LED on	During normal operation the sensor seized a provisional error message.
	Red LED on	Error message after the reaction time (see part coding): Permanent fault signal

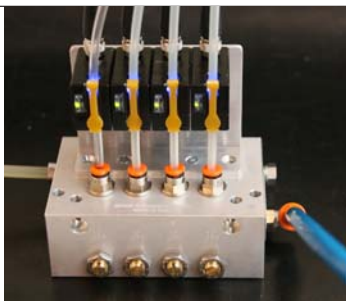


Fig. 6



Connection cable to CN
Fig. 7



Cap and fixing screw
Fig. 8



SMART IFX controller 24VDC
Fig. 9



PC LINK FLUX Software
Fig. 10



Connection cable to SMART
Fig. 11



Doubler cable
Fig. 12

Accessories: (to be ordered separately)

Connection cable to CN standard with connector male straight 4 poles (3 conn.) M8 female 4 poles (3 conn.) M8 with cable 3 m Pur N860062

Connection cable to CN with connector straight 4 poles female M8 with cable 3 m loose end N860060

Closing cap N860061

PC LINK Flux SoftWare N860170

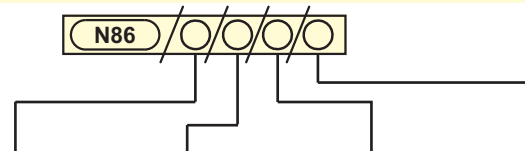
Controller SMART IFX 24VDC N860190

Cable for SMART
2000 mm FE 10/200 N860080
5000 mm FE 10/500 N860090

Connection cable SMART IFX100 FEC N860100

Doubler cable (connection of 2 sensors) MA2FE N860101

Order-designation:
Oil streak Sensor - Fluid Sensor IFX



Pipe diameter	Programming features		Electric. connection
	STOP output	Reaction time sec.	
① ø 4	① NC	① 1 ② 5	① PNP
② ø 6	② NO	③ 10 ④ 30	

Standard: N86/1/1/2/1
N86/2/1/2/1

Further versions are available by request

Order example:

Optical sensor for pipe Ø 4 mm, with Stop output normally closed (NC).
Reaction time 5 sec., PNP connection.

Order designation:


Fluid Sensor IFX Part No. N86/1/1/2/1

Supply conditions:


Before the delivery the sensors are tested and programmed. Each sensor is packed with ist test report. The registration number and the installed software version are indicated for each sensor.

To connect to distr. boxes with M12-4 poles plugs

L= 500 mm

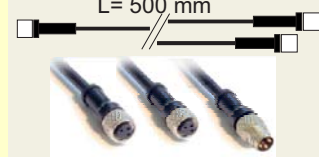


M8 M12



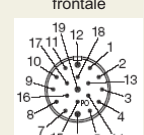
Connection cable L=500mm
M8 fem 4p.- M12 mal. 4 p.

L= 500 mm


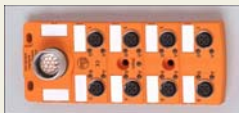


Y-connection Cable L=500mm
M8x2 fem. 4p.- M12 mal. 5 p.


Vista frontale



M12

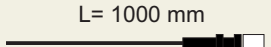
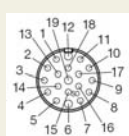



Distribution box with 8 plugs M12 4 poles
with cable conn. M23 mal. 19 poles



Connector M23 - fem. 19 poles
(link to CN panel)
Cable L=1 m

L= 1000 mm

Accessories for electrical connections: Code
(to be ordered separately)

Connection cable for optical sensor IFXN860075
M8x1 fem. 4 p./M12x1 mal. 4 p.
PVC L=500mm

Y-connection Cable **N860072**
for optical sensors IFX
M8x2 fem. 4 p. (3 conn.) / M12x1 mal. 5 p.
PVC L=500mm

Distribution box 8 inlets **N860048**
M12x1 fem. 4 poles
straight connector M23 mal. 19 poles

Shielded cable L= 1 m **N860200**
straight connector M23 fem. 19 pole
PUR cable (UL 300V) loose end