- Subject to changes without notice -

Fig. 1

BTSR
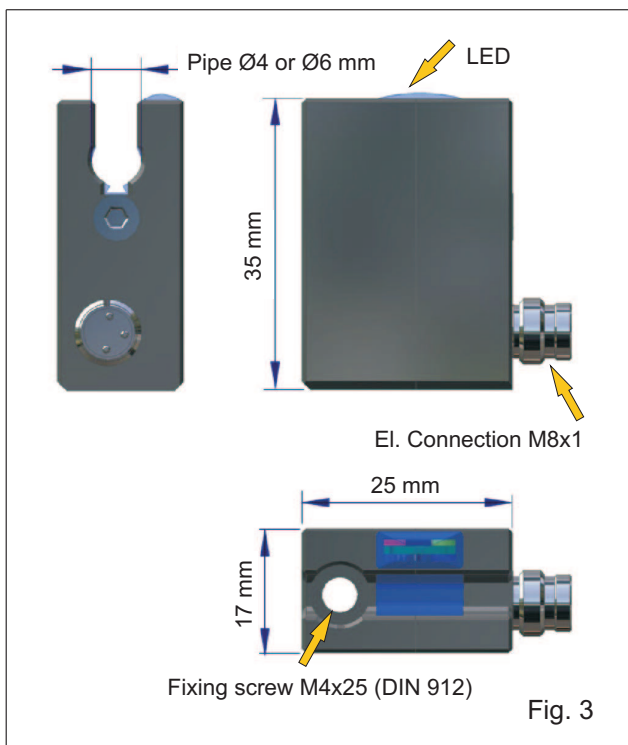BEST TECHNOLOGIES STUDY & RESEARCH

Fig. 2

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 the lack of lubricant can cause a fault message that is optically indicated by a red LED.

Technical data:

Pipe Ø4 or Ø6 mm

LED

35 mm

El. Connection M8x1

25 mm

17 mm

Fixing screw M4x25 (DIN 912)

Fig. 3

Min. Delivery volume with pipe ø4 :

Continuous flow:	40 mm³/h
Intermittent flow, max 10 mm from the mixer:	10 mm³/h
El. connection:	M 8x1, 4 poles
Power supply voltage:	12-24 V DC ±20%
Max. absoption:	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

Oil streak sensors IFX C04-06

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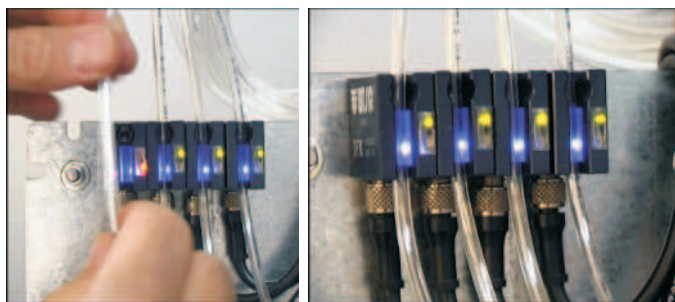|	
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Fig. 4

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.

Connection scheme

PNP

BROWN	+1	○	24VDC
WHITE	2	○	(just for programming)
BLUE	−3	○	GND
BLACK	4	○	Output-Signal

Stop output
PNP
open collector

Electric connections:

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

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

Sensor condition	LED		Output-Signals (4)	
			PNP	
	Green	Red	NO	NC
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 response time (see part coding): Permanent fault signal

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 emits 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.
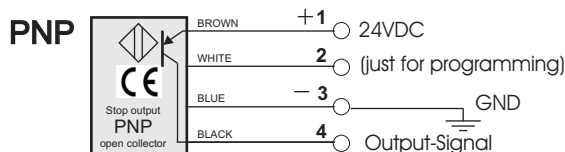
Changes of the internal parameters can be made with of an external controller or by a specific software.

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

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

IFX 04 on pipe Ø 4 mm

Fig. 6

The "Touch Light" button makes possible operating on the sensors. It is possible to identify sensors, in order to control the program uploaded on them. In this case you need the Smart IFX or the PC Link Flux software.

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Connection cable to CN

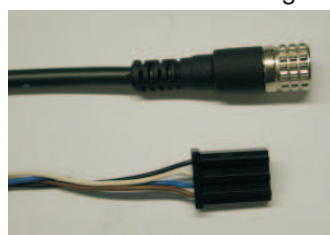Fig. 7

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 with connector straight 4 poles M8 with cable 3 m	N860060
Closing cap	N860061
Fixing screw	N860062
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**

N86 / ◯ / ◯ / ◯ / ◯

Pipe diameter	Programming features		Electric. Connection
	STOP output	Reaction time sec.	
① ∅ 4	① NC	① 1	① PNP
		② 5	
② ∅ 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 ∅ 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.

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