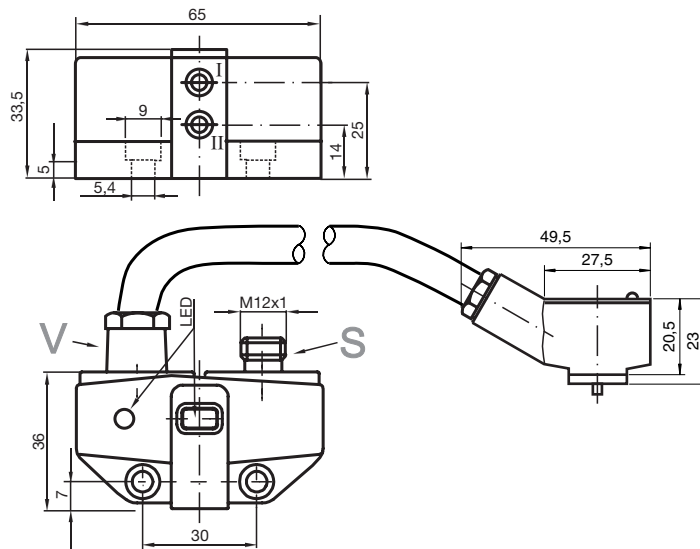# AS-Interface sensor

NCN3-F31-B3-V1-K-Y119233

Direct mounting on standard actuators

Mode of operation, programmable

Lead breakage and short circuit monitoring of the valve

Protection degree IP67

Satisfies machinery directive

Communication monitoring, turn-off

CE

Switching element function	programmable
Rated operating distance s_n	3 mm
Installation	embeddable
Assured operating distance s_a	0 ... 2,43 mm
Reduction factor r_{Al}	0,5
Reduction factor r_{Cu}	0,45
Reduction factor r_{V2A}	1
Reduction factor r_{St37}	1,2
Switching frequency f	0 ... 100 Hz
No-load supply current I_0	≤ 35 mA
LED IN	switching state (input); LED yellow
LED OUT	binary LED yellow/red yellow: switching state red: lead breakage/short-circuit
Ambient temperature	-25 ... 70 °C (248 ... 343 K)
Connection (system side)	V1-connector
Connection (valve side)	0.5 m, PVC cable with connector type 8353 Bürkert
Core cross-section (valve side)	0.75 mm²
Protection degree	IP67
Housing	PBT
Note	Valve voltage is limited for max. 26.4 V

Connection_type:

B3-V1-K

Programming Instructions

Address   00 preset , alterable
           via Busmaster or
           programming units
IO-code   D
ID-code   F

Data bit

Bit   function

D0   valve status
      (0=valve OFF; 1=valve ON)

D1   valve fault [1]
      (0=lead breakage/short circuit;
      1=no fault)

D2   switch output sensor 1 [2]
      (0=damped; 1=undamped)

D3   switch output sensor 2 [2]
   (0=damped; 1=undamped)

Parameter bit

Bit   function

P0   Watchdog (0= inactive; 1=active) [3]

P1   not used

P2   switching element function sensor I
      (0=NO; 1=NC)

P3   switching element function sensor II [4]
      (0=NO; 1=NC)

[1] Verification only with actuated valve (D0=1)

[2] Applies to NC function (P2/P3=1; preset),
with NO function (P2/P3=0) reversed characteristics

[3] Watchdog active: valve voltage drops
with the occurrence of an AS-i communication fault

[4] Default setting: NC
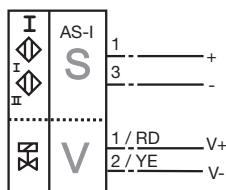
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2003-09-11

The NCN3-F31-B3-V1-K is an inductive dual sensor used to indicate the valve positioning of actuators. The dual sensor is mounted directly on the actuator using two screws. No additional adjustment is required.

A cable connection on the sensor is used directly for the valve controls. The NCN3-F31-B3-V1-K is connected via a M12x1 screw fixing to the bus line. This makes it possible to transmit both the switch signal for the valve and the messages of the sensor via AS-Interface They are both powered directly through the bus cable. Moreover, the valve is monitored for lead breakage and short circuit. The D1 data bit monitors the fault signal.

The sensors can be programmed as normally closed and normally open contacts (parameter bit P2 and P3). If there are no communications on the bus cable, the valve is automatically de-energised. The P0 parameter bit disables the watchdog function.

The current switching states are displayed by means of yellow LEDs.