Model Number

NCN3-F31K-B3B-B31

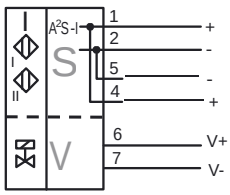
Valve positioner and valve control module

Features

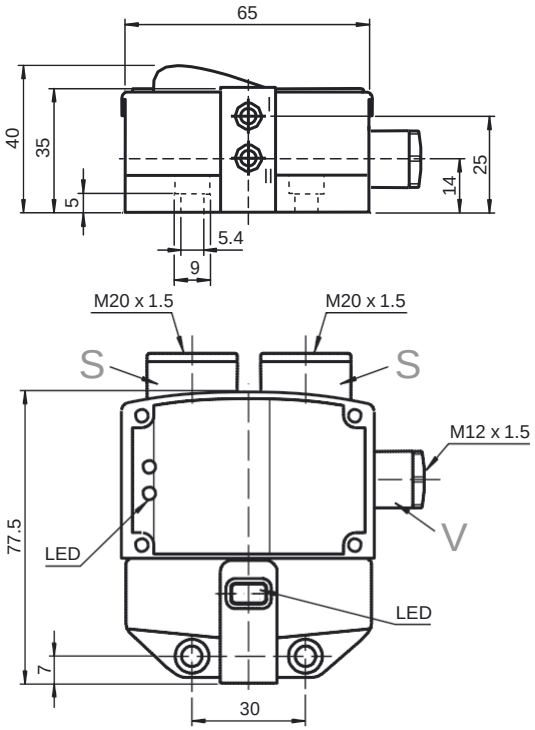
- **Direct mounting on standard actuators**
- **Nominal sensing range 3 mm by V2A target**
- **A/B slave with extended addressing possibility for up to 62 slaves**
- **Mode of operation, programmable**
- **Lead breakage and short-circuit monitoring of the valve**
- **Communication monitoring, turn-off**
- **Protection degree IP67**

Connection

B3B-V1-K



Dimensions



Technical Data

General specifications		
Switching element function		programmable
Rated operating distance	s_n	3 mm
Installation		flush mountable
Output polarity		AS-Interface
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
Nominal ratings		
Operating voltage	U_B	26.5 ... 319 V via AS-i bus system
Switching frequency	f	0 ... 100 Hz
No-load supply current	I_0	≤ 35 mA
Indicators/operating means		
LED PWR		AS-Interface voltage; LED green
LED IN		switching state (input); LED yellow
LED OUT		binary LED yellow/red yellow: switching state red: lead breakage/short-circuit
Electrical specifications		
Rated operational voltage	U_e	26.5 ... 316 V from AS-Interface
Rated operational current	I_e	100 mA
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection (system side)		screw terminal
Core cross-section (system side)		1.5/2.5 mm² flexible/rigid
Connection (valve side)		screw terminals
Core cross-section (valve side)		1.5/2.5 mm² flexible/rigid
Housing material		PBT
Sensing face		PBT
Protection degree		IP67
Material		
Housing		PBT
Tightening torque, housing screws		1 Nm
Tightening torque, cable gland		M20 x 1.5 ; ≤ 7 Nm M12 x 1.5 ; ≤ 3 Nm
Note		valve voltage limited to 26,4 V max.; valve power 2,5 W max.
Compliance with standards and directives		
Standard conformity		
Electromagnetic compatibility		EN 50295:1999-10
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007
Approvals and certificates		
UL approval		cULus Listed, General Purpose
CSA approval		cCSAus Listed, General Purpose
CCC approval		Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Programming Instructions

Address	00 preset, alterable via Busmaster or progrmming units
IO-code	D
ID-code	A
ID1-code	7
ID2-code	E

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	switching element function sensor II [4] 0=NO; 1= NC)
P2	switching element function sensor I [4] 0=NO; 1= NC)
P3	not used

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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