



**Model Number**

**NCN3-F31K-B3B-B31**

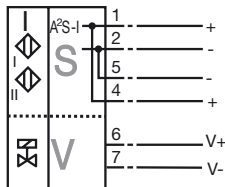
Valve positioner and valve control module

**Features**

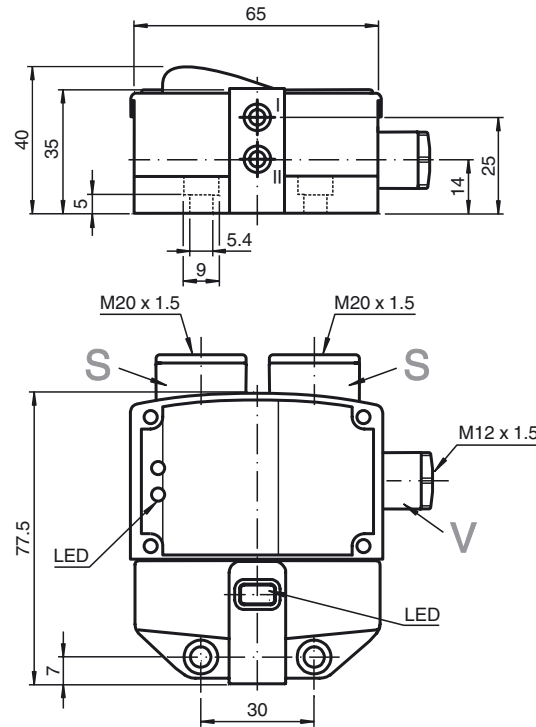
- Direct mounting on standard actuators
- Nominal sensing range 3 mm by V2A target
- A/B slave with extended addressing possibility for up to 62 slaves
- Mode of operation, programmable
- Lead breakage and short-circuit monitoring of the valve
- Communication monitoring, turn-off
- Protection degree 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 $r_{AI}$		0.5
Reduction factor $r_{Cu}$		0.45
Reduction factor $r_{V2A}$		1
Reduction factor $r_{SI37}$		1.2

**Nominal ratings**

Operating voltage	$U_B$	26.5 ... 31.9 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 ... 31.6 V from AS-Interface
Rated operational current	$I_e$	100 mA

**Ambient conditions**

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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**Mechanical specifications**

Connection (system side)	screw terminal
Core cross-section (system side)	1.5/2.5 mm <sup>2</sup> flexible/rigid
Connection (valve side)	screw terminals
Core cross-section (valve side)	1.5/2.5 mm <sup>2</sup> 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.

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**Programming Instructions**

Address 00 preset, alterable via Busmaster or programming 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 <sup>1)</sup> (0=lead breakage/short circuit; 1=no fault)
D2	switch output sensor 1 <sup>2)</sup> (0=damped; 1=undamped)
D3	switch output sensor 2 <sup>2)</sup> (0=damped; 1=undamped)

**Parameter bit**

Bit	Function
P0	Watchdog (0=inactive; 1=active) <sup>3)</sup>
P1	switching element function sensor II <sup>4)</sup> 0=NO; 1= NC)
P2	switching element function sensor I <sup>4)</sup> 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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