



Model Number

NJ5-18GM50-E2-V1-3G-3D

Features

- 5 mm flush
- ATEX-approval for zone 2 and zone 22

Accessories

BF 18

Mounting flange, 18 mm

EXG-18

Quick mounting bracket with dead stop

Technical Data

General specifications

| | | |
|------------------------------|-------|--------------------------|
| Switching function | | Normally open (NO) |
| Output type | | PNP |
| Rated operating distance | s_n | 5 mm |
| Installation | | flush |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 4.05 mm |
| Actual operating distance | s_r | 4.5 ... 5.5 mm typ. 5 mm |
| Reduction factor r_{Al} | | 0.2 |
| Reduction factor r_{Cu} | | 0.13 |
| Reduction factor r_{304} | | 0.62 |
| Reduction factor r_{Brass} | | 0.26 |
| Output type | | 3-wire |

Nominal ratings

| | | |
|---|-------|----------------------------|
| Operating voltage | U_B | 10 ... 30 V DC |
| Switching frequency | f | 0 ... 2000 Hz |
| Hysteresis | H | 3 ... 15 typ. 5 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | ≤ 3 V |
| Voltage drop at I_L | | |
| Voltage drop $I_L = 200$ mA, switching element on U_d | | 1 ... 2 V typ. 1.5 V |
| Design data | | |
| Operating current | I_L | ≤ 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA typ. 0.01 mA |
| No-load supply current | I_0 | ≤ 15 mA |
| Time delay before availability | t_v | ≤ 100 ms |
| Switching state indicator | | LED, yellow |

Functional safety related parameters

| | |
|--------------------------|--------|
| MTTF _d | 1504 a |
| Mission Time (T_M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

Mechanical specifications

| | |
|----------------------|-----------------------------------|
| Connection type | Connector plug M12 x 1, 4-pin |
| Housing material | Stainless steel 1.4305 / AISI 303 |
| Sensing face | PBT |
| Degree of protection | IP66 / IP67 |

General information

| | |
|---------------------------|--|
| Scope of delivery | 2 self locking nuts in scope of delivery |
| Use in the hazardous area | see instruction manuals |

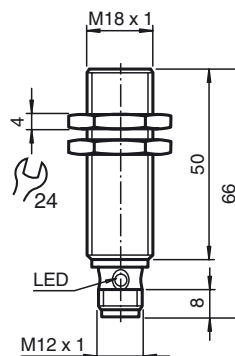
Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Standards | EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012 |

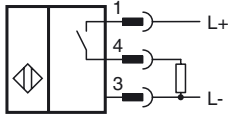
Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, General Purpose, Class 2 Power Source |
| CCC approval | CCC approval / marking not required for products rated ≤ 36 V |

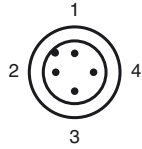
Dimensions



Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-2

| | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

Data for application in connection with hazardous areas

| | |
|----------------------------|--------------|
| Equipment protection level | Gc (nA) , Dc |
|----------------------------|--------------|

Equipment protection level Gc (nA)

| | |
|--------------------|-----|
| Type of protection | "n" |
| CE marking | CE |

Certificates

| | |
|------------------|---------------|
| ATEX certificate | PF15CERT3754X |
|------------------|---------------|

| | |
|--------------|--------------------------|
| ATEX marking | Ex II 3G Ex nA IIC T6 Gc |
|--------------|--------------------------|

| | |
|-----------|---|
| Standards | EN 60079-0:2012+A11:2013 , EN 60079-15:2010 |
|-----------|---|

| | |
|------------------|---|
| Surge protection | The protection against transient overvoltage with amplitude U is realized. U = 500 V at 1.2/50 µs, 500 Ω |
|------------------|---|

| | |
|--------------------------|--|
| Possible characteristics | maximum operating voltage U_{Bmax} , maximum load current I_{Lmax} , minimum series resistance R_V , maximum analog output voltage U_{Amax} , maximum analog output current I_{Amax} |
|--------------------------|--|

| | |
|---|---|
| Maximum permissible ambient temperature T_{amb} | Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_{Bmax} = 30\text{ V}$, $I_L = 200\text{ mA}$: 52 °C (125.6 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 100\text{ mA}$: 54 °C (129.2 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 50\text{ mA}$: 55 °C (131 °F) |
|---|---|

Equipment protection level Dc

| | |
|--------------------|------------------------------|
| Type of protection | Protection by enclosure "tc" |
| CE marking | CE |

Certificates

| | |
|------------------|---------------|
| ATEX certificate | PF15CERT3774X |
|------------------|---------------|

| | |
|--------------|-------------------------------|
| ATEX marking | Ex II 3D Ex tc IIIC T80 °C Dc |
|--------------|-------------------------------|

| | |
|-----------|---|
| Standards | EN 60079-0:2012+A11:2013 , EN 60079-31:2014 |
|-----------|---|

| | |
|--------------------------|--|
| Possible characteristics | maximum operating voltage U_{Bmax} , maximum load current I_{Lmax} , minimum series resistance R_V , maximum analog output current I_{Amax} , maximum analog output voltage U_{Amax} |
|--------------------------|--|

| | |
|---|---|
| Maximum permissible ambient temperature T_{amb} | Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_{Bmax} = 30\text{ V}$, $I_L = 200\text{ mA}$: 52 °C (125.6 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 100\text{ mA}$: 54 °C (129.2 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 50\text{ mA}$: 55 °C (131 °F) |
|---|---|



SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk