



| Housing Style | Part Number | ID Number | Features | Sensing Range (mm) | Output | Voltage | Switching Freq. (Hz) | Operating Current AC/DC (mA) | Operating Temp. (°C) | Protection | Housing | Face | Power LED | Output LED | Mating Cordset | Wiring Diagram # | Wiring Diagrams |
|--|------------------------------------|-----------|----------------|--------------------|--------------------------------------|--------------------------|----------------------|------------------------------|----------------------|------------|---------|-------|-----------|------------|----------------|------------------|----------------------|
| 30 mm - Embeddable, minifast® Right Angle Connection | Bi10-G30-AZ3X-B1431 | T4372600 | | 10 | 2-Wire AC/DC | 20-250 VAC 10-300 VDC | 20 | ≤400/300 | -25 to +70 | IP 67 | CPB | PA 12 | N/A | | RKM 30-*M | 4 | Diagram 1 |
| 30 mm - Embeddable, minifast® Connection, Teflon Coated | Bi10-GT30-ADZ30X2-B1131/S34 | T4256200 | WFI | 10 | 2-Wire AC/DC Short-Circuit Protected | 20-250 VAC 10-300 VDC | 20 | ≤400/300 | -25 to +70 | IP 67 | TC | TC | GN | Rd | RKM 30-*M | 4 | Diagram 2 |
| | Bi10-GT30-ADZ30X2-B1131 | T4256290 | | 10 | | | 20 | ≤400/300 | -25 to +70 | IP 67 | TC | TC | GN | Rd | RKM 30-*M | 4 | |
| | Bi10-GT30H-ADZ30X2-B1131/S34/S1589 | T4255280 | Weldguard, WFI | 10 | | | 20 | ≤400/300 | -25 to +70 | IP 67 | TC | WG | GN | Rd | RKM 30-*M | 4 | |
| | Bi10U-GT30-ADZ30X2-B1131 | M4281622 | Uprox | 10 | | | 20 | ≤400/300 | -30 to +85 | IP 67 | TC | TC | GN | YE | RKM 30-*M | 4 | |
| 30 mm - Nonembeddable, minifast® Connection | Ni15-G30-AN6X-B1141 | T4695500 | | 15 | 3-Wire DC NPN | 10-30 VDC | 500 | ≤200 | -25 to +70 | IP 67 | CPB | PA 12 | N/A | YE | RKM 40-*M | 1 | Diagram 3 |
| | Ni15-G30-AP6X-B1141 | T4696600 | | 15 | 3-Wire DC PNP | 10-30 VDC | 500 | ≤200 | -25 to +70 | IP 67 | CPB | PA 12 | N/A | YE | RKM 40-*M | 2 | |
| | Ni15-G30-VN4X-B1141 | M4590800 | Comp. Outputs | 15 | 4-Wire DC NPN | 10-65 VDC | 500 | ≤200 | -25 to +70 | IP 67 | CPB | PA 12 | N/A | YE | RKM 40-*M | 3 | |
| 30 mm - Nonembeddable, minifast® Connection | Ni15-G30-AZ3X-B1131 | T4372300 | | 15 | 2-Wire AC/DC | 20-250 VAC 10-300 VDC | 20 | ≤400/300 | -25 to +70 | IP 67 | CPB | PA 12 | N/A | Rd | RKM 30-*M | 4 | Diagram 4 |
| | Ni20-G30-ADZ30X2-B1131 | T4205405 | | 20 | 2-Wire AC/DC Short-Circuit Protected | 20-250 VAC 10-300 VDC | 20 | ≤400/300 | -25 to +70 | IP 67 | CPB | PA 12 | GN | Rd | RKM 30-*M | 4 | |
| | Ni20U-G30-ADZ30X2-B1131 | M4281812 | | 20 | | | 20 | ≤400/300 | -30 to +85 | IP 67 | CPB | PA 12 | GN | YE | RKM 30-*M | 4 | |

Barrels

* Length in meters.

For detailed sensor specifications see Section A.
Normally Closed versions available upon request, consult factory.

For material descriptions see page A34.

Sensors

General Specifications

2-Wire DC NAMUR

| | |
|---|--|
| Differential Travel (Hysteresis) | 1-10% (5% typical) |
| Nominal Voltage | 8.2 VDC (EN60947-5-6) |
| Resistance Change from Nonactivated to Activated Condition | typical <1.0 to >8.0 k Ω |
| Resulting Current Change | ≥ 2.2 mA to ≤ 1.0 mA |
| Recommended Switching Point for Remote Amplifier | >1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF |
| Power-On Effect | Realized in Amplifier |
| Reverse Polarity Protection | Incorporated |
| Wire-Break Protection | Realized in Amplifier |
| Transient Protection | Realized in Amplifier |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | $\leq 2\%$ of Rated Operating Distance |

2-Wire DC

| | |
|---|--|
| Ripple | $\leq 10\%$ |
| Differential Travel (Hysteresis) | 3-15% (5% typical) |
| Voltage Drop Across Conducting Sensor | Non-polarized (AD) <5.0 V Polarized (AG) <4.0 V |
| Trigger Current for Overload Protection | ≥ 120 mA |
| Minimum Load Current | ≥ 3.0 mA |
| Off-State (Leakage) Current | ≤ 0.8 mA |
| Power-On Effect | Per IEC 947-5-2 |
| Transient Protection | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | $\leq 2\%$ of Rated Operating Distance |

REED (AC) and (DC)

| | |
|----------------------------------|---|
| Ripple | $\leq 10\%$ |
| Differential Travel (Hysteresis) | ≤ 1 mm (Depends on magnet) |
| Maximum Switching Capacity | 10 W |
| No-Load Current | 0 mA |
| Maximum Approach Velocity | ≤ 10 m/s |
| Power-On Effect | Per IEC 947-5-2 |
| Transient Protection | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | $\geq \pm 0.1$ mm (constant temperature & voltage) |
| Temperature Drift | ≤ 0.1 mm |
| Voltage Drop | ≤ 0.5 Volts |

3-Wire DC

| | |
|---|---|
| Ripple | ≤10% |
| Differential Travel (Hysteresis). | 3-15% (5% typical) |
| Voltage Drop Across Conducting Sensor. | ≤1.8 V |
| | - Si...K08/K10(AP71, AN7) . . . ≤0.7 V |
| | - Bi/Ni./S34 ≤1.8 V |
| | - Bi 2-Q8SE-AP/AN.. . . . ≤2.5 V |
| Trigger Current for Overload Protection | ≥220 mA on 200 mA Load Current |
| | ≥170 mA on 150 mA Load Current |
| | ≥120 mA on 100 mA Load Current |
| Off-State (Leakage) Current | <100 μA |
| No-Load Current | <10 mA (Uprox ≤15 mA) |
| Time Delay Before Availability | ≤8 ms |
| Power-On Effect | Per IEC 947-5-2 |
| Reverse Polarity Protection | Incorporated |
| Wire-Break Protection | Incorporated |
| Transient Protection. | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | ≤2% of Rated Operating Distance |
| | Bi 2-Q8SE-AP/AN.. ≤5% of Rated Operating Distance |

4-Wire DC

| | |
|---|---------------------------------------|
| Ripple. | ≤10% |
| Differential Travel (Hysteresis). | 3-15% (5% typical) |
| Voltage Drop Across Conducting Sensor. | ≤1.8 V at 200 mA |
| Trigger Current for Overload Protection | ≥220 mA on 200 mA Load Current |
| | ≥170 mA on 150 mA Load Current |
| | ≥120 mA on 100 mA Load Current |
| Off-State (Leakage) Current | <100 μA |
| No-Load Current | <10 mA (Uprox ≤15 mA) |
| Power-On Effect | Per IEC 947-5-2 |
| Reverse Polarity Protection | Incorporated |
| Wire-Break Protection | Incorporated |
| Transient Protection. | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | ≤2% of Rated Operating Distance |

Sensors

General Specifications

2-Wire AC w/o Short-Circuit Protection

| | |
|---|---------------------------------------|
| Line Frequency | 40-60 Hz |
| Differential Travel (Hysteresis) | 3-15% (5% typical) |
| Voltage Drop Across Conducting Sensor | ≤6.0 V at 400 mA |
| | 8 & 12 mm ≤6.0 V at 100 mA |
| Continuous Load Current | ≤400 mA |
| | 8 & 12 mm ≤100 mA |
| Off-State (Leakage) Current | ≤1.7 mA |
| Minimum Load Current | ≥5.0 mA |
| Inrush Current | ≤8.0 A (≤10 ms, 5% Duty Cycle) |
| Power-On Effect | Per IEC 947-5-2 |
| Transient Protection | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | ≤2% of Rated Operating Distance |

2-Wire AC/DC w/Short-Circuit Protection

| | |
|---|---------------------------------------|
| Line Frequency | 40-60 Hz |
| Differential Travel (Hysteresis) | 3-15% (5% typical) |
| Voltage Drop Across Conducting Sensor | ≤6.0 V at 400 mA |
| | 8 & 12 mm ≤6.0 V at 100 mA |
| Trigger Current for Overload Protection | AC: ≥440 mA; DC: ≥330 mA |
| | 8 & 12 mm AC: ≥120 mA; DC: ≥120 mA |
| Continuous Load Current | AC: ≤400 mA; DC: ≤300 mA |
| | 8 & 12 mm AC: ≥100 mA; DC: ≥100 mA |
| Off-State (Leakage) Current | ≤1.7 mA (AC) |
| | ≤1.5 mA (DC) |
| Minimum Load Current | ≥3.0 mA |
| Inrush Current | 4.0 A (≤20 ms, 10% Duty Cycle) |
| Power-On Effect | Per IEC 947-5-2 |
| Transient Protection | Per EN 60947-5-2 |
| Shock | 30 g, 11 ms |
| Vibration | 55 Hz, 1 mm Amplitude in all 3 Planes |
| Repeatability | ≤2% of Rated Operating Distance |