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 kΩ
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	≤2% of Rated Operating Distance

2-Wire DC

Ripple	≤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	≤2% of Rated Operating Distance

REED (AC) and (DC)

Ripple	≤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	≥ ±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

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 and 12 mm ≤6.0 V at 100 mA
Continuous Load Current	≤400 mA
	8 and 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

2-Wire DC AS-Interface

Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Off-State (Leakage) Current	<100 µA
No-Load Current	<30 mA
Time Delay Before Availability	≤8 ms
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
	Bi 2-Q8SE-Ap/AN..£5% of Rated Operating Distance
E/A Configuration	(HEX)/ID-Code (HEX) 1/1
I/O Matrix Input	0=Switching Signal
	1-3= Not Used
	0-3-3= Not Used

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 and 12 mm ≤6.0 V at 100 mA
Trigger Current for Overload Protection	AC: ≥440 mA; DC: ≥330 mA
	8 and 12 mm AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current	AC: ≤400 mA; DC: ≤300 mA
	8 and 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

3-Wire DC Capacitive

Ripple	≤10%
Differential Travel (Hysteresis)	2-20% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Off-State (Leakage) Current	<100 µA
No-Load Current	≤15 mA
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Yes
Wire-Break Protection	Yes
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
Temperature Drift	<±20% of Rated Operating Distance

4-Wire DC Capacitive

Ripple	≤10%
Differential Travel (Hysteresis)	2-20 (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Leakage (Off-State) Current	<100 µA
No-Load Current	≤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
Temperature Drift	<±20% of Rated Operating Distance

2-Wire AC Capacitive

Line Frequency	50-60 Hz
Hysteresis (Differential Travel)	2-20% (5% typical)
Voltage Drop Across Conducting Sensor	≤7.0 V at 500 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
Temperature Drift	<±20% of Rated Operating Distance

4-Wire DC LIU Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R_L ≥4.7 kΩ
Current Output	0-20 mA/R_L ≤500 Ω
Linearity Tolerance	±3% of full scale
Temperature Tolerance	±0.06% / °C
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	≤1% (0.5% after 30 min. warm up)

3-Wire DC LI2 Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Current Output	4-20 mA/R_L ≤500 Ω
Linearity Tolerance	±3% of full scale
Temperature Drift	±0.06% / °C
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	≤1% (0.5% after 30 min. warm up)

LI = indicates current output only.
2 = Indicates a variance to standard which is 0-20 mA.

3-Wire DC LF10 Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Frequency Output	1-10 kHz
Linearity Tolerance	±5% of full scale
Temperature Tolerance	±0.06% / °C
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	≤1% (0.5% after 30 min. warm up)

LF = Linear frequency (1-10 kHz) output.

4-Wire DC LUAP6X Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R_L ≥4.7 kΩ
Linearity Tolerance	±5% of full scale
Temperature Tolerance	±0.06% / °C
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Shock	30 g, 11 ms
Off-State (Leakage) Current	<100 mA
Voltage Drop Across Conducting Sensor	≤1.8 V
Trigger Current for Overload Protection	≥220 mA on 200 mA load current
No-Load Current	<10 mA
Vibration	55 Hz, 1 mm Amplitude, in all 3 planes
Repeatability	≤1% (0.5% after 30 min. warm up)

3-Wire DC LU Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R_L ≥4.7 kΩ
Linearity Tolerance	±3% of full scale
Temperature Tolerance	±0.06% / °C
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	≤1% (0.5% after 30 min. warm up)

4-Wire DC LIU5 Analog

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R_L ≥4.7 kΩ
Current Output	4-20 mA/R_L ≤500 Ω
Linearity Tolerance	±3% of full scale
Temperature Drift	±0.06% / °C
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	≤1% (0.5% after 30 min. warm up)

LIU = Linear voltage or current output.
5 = Indicates 4-20 mA and 0-10 V output.

Variations:

No Load Current	
WIM 40-Q20L60	≤23.0 mA
WIM 70-Q20L100	≤23.0 mA
WIM 40-NTL/STL	≤23.0 mA

Linearity Tolerance	
WIM 40-Q20L60	≤2%
WIM 70-Q20L100	≤8%
WIM 40-NTL/STL	≤2%

Relative Temp. Drift	
WIM 40-Q20L60	≤±0.06% °C
WIM 70-Q20L100	≤±0.06% °C
WIM 40-NTL/STL	≤±0.06% °C

2-Wire DC NAMUR Analog

Linearity Tolerance	≤5% of final value
Nominal Voltage	8.2 VDC (EN 50227)
Current Output	4-20 mA
Power-On Effect	Realized in Amplifier
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Realized in Amplifier
Transient Protection	Realized in Amplifier
Temperature Drift	≤ ±0.06% per °C
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability	≤1% (0.5% after 30 min. warm up)