

inductive sensors (plus / super plus)

Inductive proximity switches are contact-free sensors. They detect all conductive metals, regardless of whether they move or not. The achievable sensing range of the devices depends on the object material and its dimensions. The vibration-resistant sensors can be approached laterally or frontally. Inductive proximity switches are used for presence detection (e.g. goods carriers), positioning (e.g. dampers), counting (e.g. nuts /bolts), speed detection (e.g. for cog wheels), on conveyor systems (e.g. hose feedings) or distance measurements (e.g. press-in checking) of metallic objects.



TECHNICAL DATA

Devices for hose mounting Feeding technology Harsh environmental conditions Hygienic and wet area No Metallic sensor surface No Metallic sensor surface No Melding-proof sensors No Welding-proof sensors No Active area material of sensor Ambient temperature (min/max) -25 °C / 70 °C Ambient temperature (min/max) Athive area from the mereature (min/max) -25 °C / 70 °C Ambient temperature (min/max) Aubient temperature (min/max) No Cable length 2 m Degree of protection (IP) High-pressure-proof sensors No Housing design Housing design Housing material Housing material Housing material Housing material Increased ambient temperatures > 80°C No Material independent sensors (factor 1) No Material of cable sheath PVC Mechanical mounting condition for sensor No Sensor length Teflon housing No Sensor length Teflon housing X increased switching distance	TECHNICAL DATA	
Harsh environmental conditions Hygienic and wet area NO Metallic sensor surface NO Oil and cooling lubricants NO Ring-shaped sensors NO Welding-proof sensors NO Active area material of sensor Active area material of sensor Ambient temperature (min/max) Ambient temperatures < -25°C NO Ambient temperatures < -25°C NO Cable length 2 m Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Housing material Housing m	Devices for hose mounting	NO
Hygienic and wet area Metallic sensor surface NO Metallic sensor surface NO NO Ring-shaped sensors NO Welding-proof sensors NO Active area material of sensor Ambient temperature (min/max) Ambient temperatures < -25°C Atmospheric-change resistant (temperature cycle) Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Housing material Housing material Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor No No Sensor diameter Sensor length 145 mm Teflon housing 2 increased switching distance NO NO NO NO NO NO NO NO NO N	Feeding technology	NO
Metallic sensor surface Oil and cooling lubricants Ring-shaped sensors NO Welding-proof sensors NO Active area material of sensor Ambient temperature (min/max) Ambient temperatures < -25°C Atmospheric-change resistant (temperature cycle) NO Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Cylinder plain Housing material Housing material Increased ambient temperatures > 80°C Material independent sensors (factor 1) NO Material of cable sheath Number of wires Pressure-proof Sensor diameter Sensor length Possione of the minimum of the mi	Harsh environmental conditions	NO
Oil and cooling lubricants Ring-shaped sensors NO Welding-proof sensors NO Active area material of sensor PBTP Ambient temperature (min/max) -25 °C / 70 °C Ambient temperatures < -25°C NO Atmospheric-change resistant (temperature cycle) NO Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Chromium-plated Housing design Cylinder plain Housing material Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires Pressure-proof Sensor diameter Sensor length 45 mm Teflon housing 2x increased switching distance NO NO Sa increased switching distance NO Sa increased switching distance	Hygienic and wet area	NO
Ring-shaped sensors Welding-proof sensors Active area material of sensor Active area material of sensor Ambient temperature (min/max) -25 °C / 70 °C Ambient temperatures < -25 °C Ambient temperatures < -25 °C NO Atmospheric-change resistant (temperature cycle) Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Chromium-plated Housing design Cylinder plain Housing material Housing material Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires Pressure-proof NO Sensor diameter 6.5 mm Sensor length 45 mm Teflon housing NO 2x increased switching distance NO YES	Metallic sensor surface	NO
Welding-proof sensors NO Active area material of sensor PBTP Ambient temperature (min/max) -25 °C / 70 °C Ambient temperatures < -25°C	Oil and cooling lubricants	NO
Active area material of sensor Ambient temperature (min/max) Ambient temperatures < -25°C Ambient temperatures < -25°C Atmospheric-change resistant (temperature cycle) Cable length Degree of protection (IP) High-pressure-proof sensors Housing coating Housing design Housing material Housing material Housing material Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor No Sensor diameter Sensor length Teflon housing 2x increased switching distance NO NO PBTP Ambier of vor C NO NO PP67 NO Chromium-plated Cylinder plain Metal Brass NO NO NO NO NO NO Sensor diameter 6.5 mm NO NO Sensor diameter Sensor length Teflon housing NO 2x increased switching distance NO NO Sensor distance NO NO NO NO NO NO NO NO NO N	Ring-shaped sensors	NO
Ambient temperature (min/max) Ambient temperatures < -25°C Atmospheric-change resistant (temperature cycle) Cable length Degree of protection (IP) High-pressure-proof sensors Housing coating Housing design Housing material Housing material Housing material Housing material Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath Mechanical mounting condition for sensor Number of wires Pressure-proof Sensor diameter Sensor length Teflon housing 2x increased switching distance NO NO NO NO NO NO Sensor diameter Sensor length Teflon housing 2x increased switching distance NO NO NO NO NO NO NO NO NO N	Welding-proof sensors	NO
Ambient temperatures < -25°C Atmospheric-change resistant (temperature cycle) NO Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Housing material Housing material Housing material Housing material Ricreased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires Pressure-proof Sensor diameter Sensor length Teflon housing 2x increased switching distance NO Sensor discreased switching distance	Active area material of sensor	PBTP
Atmospheric-change resistant (temperature cycle) Cable length Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Housing material Housing material Housing material Housing material Brass Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires Pressure-proof Sensor diameter Sensor length Teflon housing 2x increased switching distance NO NO Sensor distance NO NO Sensor distance	Ambient temperature (min/max)	-25 °C / 70 °C
Cable length2 mDegree of protection (IP)IP67High-pressure-proof sensorsNOHousing coatingChromium-platedHousing designCylinder plainHousing materialMetalHousing materialBrassIncreased ambient temperatures > 80°CNOMaterial independent sensors (factor 1)NOMaterial of cable sheathPVCMechanical mounting condition for sensorQuasi-flatNumber of wires3Pressure-proofNOSensor diameter6.5 mmSensor length45 mmTeflon housingNO2x increased switching distanceNO3x increased switching distanceYES	Ambient temperatures < -25°C	NO
Degree of protection (IP) High-pressure-proof sensors NO Housing coating Housing design Cylinder plain Housing material Housing material Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires 3 Pressure-proof NO Sensor diameter Sensor length Teflon housing NO 2x increased switching distance YES	Atmospheric-change resistant (temperature cycle)	NO
High-pressure-proof sensors Housing coating Housing design Cylinder plain Metal Housing material Housing material Brass Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires Pressure-proof NO Sensor diameter Sensor length Teflon housing 2x increased switching distance NO Chromium-plated Chromium-plated Chromium-plated NO NO NO NO NO NO NO NO NO N	Cable length	2 m
Housing coating Housing design Cylinder plain Housing material Metal Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires 3 Pressure-proof NO Sensor diameter Sensor length Teflon housing 2x increased switching distance NO Sensor distance VES	Degree of protection (IP)	IP67
Housing design Cylinder plain Housing material Metal Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires 3 Pressure-proof NO Sensor diameter 6.5 mm Sensor length Teflon housing NO 2x increased switching distance Netal Netal Metal Mo NO NO NO NO NO NO Sensor diameter NO NO Sensor diameter Sensor length Teflon housing NO Sensor distance	High-pressure-proof sensors	NO
Housing material Housing material Brass Increased ambient temperatures > 80°C NO Material independent sensors (factor 1) NO Material of cable sheath PVC Mechanical mounting condition for sensor Quasi-flat Number of wires 3 Pressure-proof NO Sensor diameter Sensor length Teflon housing NO 2x increased switching distance NO 3x increased switching distance YES	Housing coating	Chromium-plated
Housing material Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath PVC Mechanical mounting condition for sensor Number of wires Pressure-proof NO Sensor diameter Sensor length Teflon housing NO 2x increased switching distance NO Sensor distance NO 3x increased switching distance NO	Housing design	Cylinder plain
Increased ambient temperatures > 80°C Material independent sensors (factor 1) Material of cable sheath Mechanical mounting condition for sensor Number of wires Pressure-proof NO Sensor diameter Sensor length Teflon housing 2x increased switching distance NO NO NO NO NO NO NO NO Sensor diameter NO NO NO YES	Housing material	Metal
Material independent sensors (factor 1)NOMaterial of cable sheathPVCMechanical mounting condition for sensorQuasi-flatNumber of wires3Pressure-proofNOSensor diameter6.5 mmSensor length45 mmTeflon housingNO2x increased switching distanceNO3x increased switching distanceYES	Housing material	Brass
Material of cable sheathPVCMechanical mounting condition for sensorQuasi-flatNumber of wires3Pressure-proofNOSensor diameter6.5 mmSensor length45 mmTeflon housingNO2x increased switching distanceNO3x increased switching distanceYES	Increased ambient temperatures > 80°C	NO
Mechanical mounting condition for sensorQuasi-flatNumber of wires3Pressure-proofNOSensor diameter6.5 mmSensor length45 mmTeflon housingNO2x increased switching distanceNO3x increased switching distanceYES	Material independent sensors (factor 1)	NO
Number of wires3Pressure-proofNOSensor diameter6.5 mmSensor length45 mmTeflon housingNO2x increased switching distanceNO3x increased switching distanceYES	Material of cable sheath	PVC
Pressure-proof Sensor diameter Sensor length Teflon housing 2x increased switching distance NO 3x increased switching distance YES	Mechanical mounting condition for sensor	Quasi-flat
Sensor diameter 6.5 mm Sensor length 45 mm Teflon housing NO 2x increased switching distance NO 3x increased switching distance YES	Number of wires	3
Sensor length 45 mm Teflon housing NO 2x increased switching distance NO 3x increased switching distance YES	Pressure-proof	NO
Teflon housing NO 2x increased switching distance NO 3x increased switching distance YES	Sensor diameter	6.5 mm
2x increased switching distanceNO3x increased switching distanceYES	Sensor length	45 mm
3x increased switching distance YES	Teflon housing	NO
	2x increased switching distance	NO
4x increased switching distance NO	3x increased switching distance	YES
	4x increased switching distance	NO

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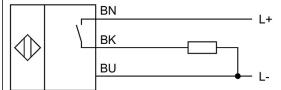
TECHNICAL DATA

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Cascadable	NO
Connection to amplifier	NO
Correction factor (aluminum)	0.2
Correction factor (brass)	0.35
Correction factor (copper)	0.18
Correction factor (stainless steel)	0.67
Correction factor (steel)	1
Distance measuring sensors	NO
Hysteresis	10 %
Increased switching distance	YES
Max. output current	200 mA
No-load current	10 mA
Norm measuring plate	9x9x1
Rated control supply voltage Us at DC (min/max)	10 V / 30 V
Relative repeat accuracy	5 %
Reverse polarity protection	YES
Short-circuit-proof	YES
Suitable for safety functions	NO
Supply voltage (min/max)	10 V / 30 V
Switching distance	3 mm
Switching frequency	1000 Hz
Type of electrical connection	Cable
Type of switching function	Normally open contact
Type of switching output	PNP
Voltage drop	2 V
Voltage type	DC
With LED display	YES
With monitoring function of downstream devices	NO
Areas inquiry	NO
End position sensing, hydraulic cylinder	NO
Welding area	NO



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CONNECTION



Colors: BN (brown), BU (blue), BK (black) **Functions:** BN = L+, BU = L-, BK = PNP NO

DIMENSIONAL DRAWING

