

SAFETY MAGNETIC SENSOR

YSM-xxK4-MxxN-xxxx

ECOLAB®



22 AND 78 MM SIZES

UP TO CAT. 4 / PL e

OUTSTANDING FEATURES

- Frontal or frontal 90° actuation
- Safe switch on distance Sao : 4 or 8 mm
- Safe switch off distance Sar : 10, 17 or 18 mm
- PVC cable or M12 pigtail connection
- Type 4, low coding level according to ISO 14119
- Up to category 4, PL e according to ISO 13849-1
- Extremely compact size
- ECOLAB certified

TECHNICAL DATA

Supply voltage range	24 VDC ± 20 %
Load current	max 200 mA (-25°C...+80°C)
Switching frequency	< 5 Hz
Safe switch on distance Sao	4 or 8 mm
Safe switch off distance Sar	10, 17 or 18 mm
Dimensions	36 mm x 26 mm x 13 mm (YSM-22 series) 88 mm x 25 mm x 13 mm (YSM-78 series)
Usage category	DC 12
Repeat accuracy	< 0.2 mm
Actuation	Frontal or Frontal 90°
Hysteresis	see type-specific data (page 2)
Output	2x NO Reed contact
Minimum air gap Somin	0.5 mm
Ambient temperature range	-25 ... +80 °C
Storage temperature range	-25 ... +80 °C
Enclosure rating	IP 67 (EN 60529) and IP 6K9K (ISO 20653)
Housing material	PBT yellow, PC black
Max. torque for fastening screw	0.7 Nm
Weight	see type-specific data (page 2)
Connection	5 m PVC cable 4x0,25mm ² or 0.15 m PVC pigtail with M12 4-pins connector
Cable diameter	Ø 4.7 mm ± 0,25 mm
Max. torque for fastening connector	0.6 Nm
Cable runs	30 m max.
Safety level*	Cat.4 / PL e (EN ISO 13849-1) SIL _{CL} 3 (IEC/EN 62061) SIL 3 (IEC/EN 61508)
Min. Safe Failure Fraction (SFF)	99.5%
PFH _d (1/h)	8,43 x 10 ⁻⁹
Vibration resistance	10 Hz ... 55 Hz (EN 60947-5-2), 1 mm amplitude
Shock resistance	30 g / 11 ms (EN 60947-5-2)
Area type class	1
Max. rated insulation voltage U _i	300 V DC / 250 V AC
Rated impulse withstand voltage U _{imp}	0.8 kV
Content in each bag	Sensor and actuator (kit)

* Short circuit recognition through differing voltages or pulsed signals required

TYPE-SPECIFIC DATA

YSM-22 SERIES

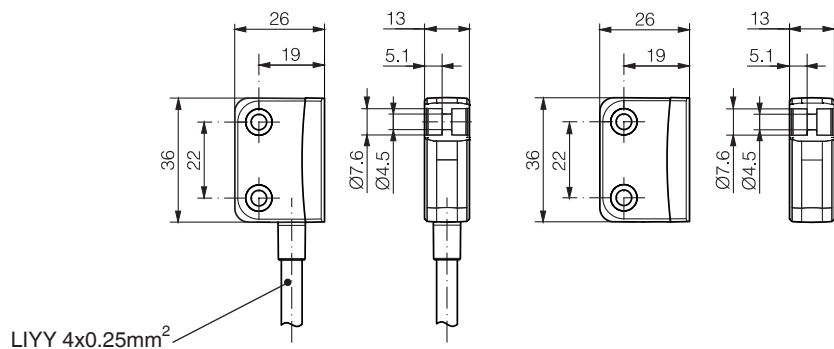
Part reference	Dimensions [mm]	Sao	Sar	Actuation	Hysteresis	Connection	Weight sensor	Weight actuator
YSM-22K4-MSFN-C050	36 x 26 x 13	4 mm	10 mm	Frontal	1.5 mm	PVC, 5 m, 4 wire	176 g	17 g
YSM-22K4-MEFN-C050	36 x 26 x 13	8 mm	17 mm	Frontal	2.5 mm	PVC, 5 m, 4 wire	176 g	17 g
YSM-22K4-MSAN-C050	36 x 26 x 13	4 mm	10 mm	Frontal 90°	1.5 mm	PVC, 5 m, 4 wire	176 g	17 g
YSM-22K4-MEAN-C050	36 x 26 x 13	8 mm	17 mm	Frontal 90°	2.5 mm	PVC, 5 m, 4 wire	176 g	17 g
YSM-22K4-MSFN-P012	36 x 26 x 13	4 mm	10 mm	Frontal	1.5 mm	PVC, 0.15 m + M12 4-pin	35 g	17 g
YSM-22K4-MEFN-P012	36 x 26 x 13	8 mm	17 mm	Frontal	2.5 mm	PVC, 0.15 m + M12 4-pin	35 g	17 g
YSM-22K4-MSAN-P012	36 x 26 x 13	4 mm	10 mm	Frontal 90°	1.5 mm	PVC, 0.15 m + M12 4-pin	35 g	17 g
YSM-22K4-MEAN-P012	36 x 26 x 13	8 mm	17 mm	Frontal 90°	2.5 mm	PVC, 0.15 m + M12 4-pin	35 g	17 g

YSM-78 SERIES

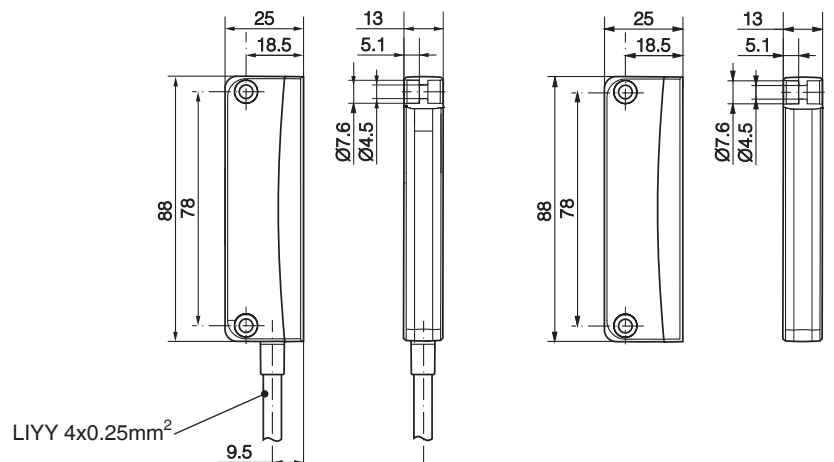
Part reference	Dimensions [mm]	Sao	Sar	Actuation	Hysteresis	Connection	Weight sensor	Weight actuator
YSM-78K4-MEFN-C050	88 x 25 x 13	8 mm	18 mm	Frontal	3.5 mm	PVC, 5 m, 4 wire	196 g	35 g
YSM-78K4-MEAN-C050	88 x 25 x 13	8 mm	18 mm	Frontal 90°	3.5 mm	PVC, 5 m, 4 wire	196 g	35 g
YSM-78K4-MEFN-P012	88 x 25 x 13	8 mm	18 mm	Frontal	3.5 mm	PVC, 0.15 m + M12 4-pin	45 g	35 g
YSM-78K4-MEAN-P012	88 x 25 x 13	8 mm	18 mm	Frontal 90°	3.5 mm	PVC, 0.15 m + M12 4-pin	45 g	35 g

DIMENSIONS

YSM-22 SERIES

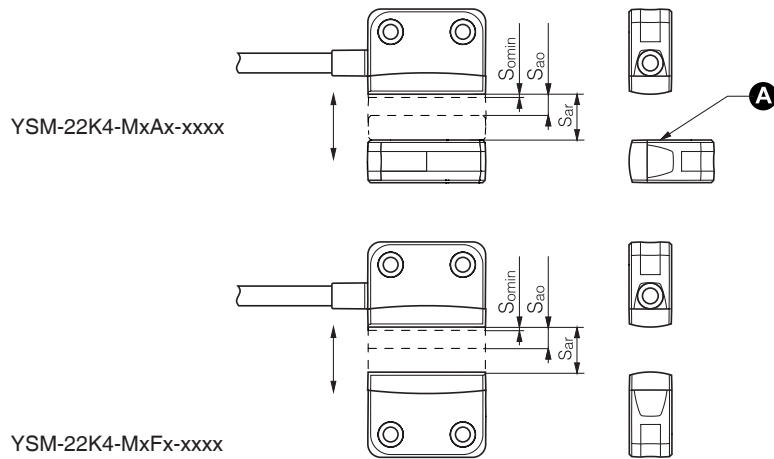


YSM-78 SERIES

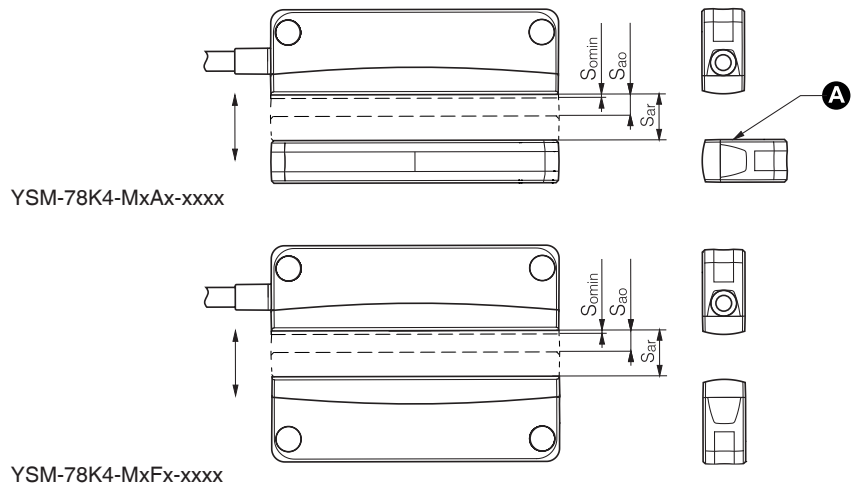


INSTALLATION

YSM-22 SERIES

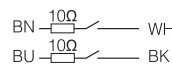
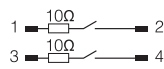


YSM-78 SERIES

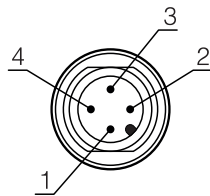


A : Active surface marked with ▲

PIN ASSIGNMENT



5m cable



0.15m, M12 pigtail

ASSIGNMENT	FUNCTION	PINS/WIRES ON SENSOR	
		M12	OPEN CABLE
Power supply	24 VDC	1	brown
Power supply	24 VDC	3	blue
Output	NO contact 1	2	white
Output	NO contact 2	4	black