



GS-M91N

Holding force 900N M12 Connector type Standard type NPN



*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model		GS-M91N
Type		For hinged door High-holding force M12 Connector Standard
Holding force when locked		900N
Holding force when unlocked		Approx. 50N *1
Cascading		Max. 16 units
Operating distance	Sao(OFF→ON)	0.1 mm 0.004" *2
	Sar(ON → OFF)	15 mm 0.59" *2
Response time (ms)	Lock→Unlock	250 ms *3
	Unlock→Lock	
	Detect→ Not detect	20 ms + 2 ms × (number of cascaded unit -1) *3
	Not detect→ Detect	300 ms + 25 ms × (number of cascaded unit -1) *3
Control output (OSSD output)	Output	Transistor outputs × 2
	Max. load current	150 mA
	Residual voltage (during ON)	Max. 2.5 V (with a cable length of 5 m 16.4') Max. 3.5 V (with a cable length of 31 m 101.7')
	OFF state voltage	Max. 2.0 V (with a cable length of 5 m 16.4') Max. 3.0 V (with a cable length of 31 m 101.7')
	Leakage current	Max. 0.5 mA
	Max. capacitive load	0.8 μF
	Load wiring resistance	Max. 2.5Ω
AUX (Non-safety related output)	Output	Transistor output (Only advanced function type has two outputs.)
	Max. load current	50 mA
	Residual voltage (during ON)	Max. 2.5 V(with a cable of 5 m 16.4') Max. 3.5 V(with a cable of 31 m 101.7')
External input (Short-circuit current)	Safety input	Approx. 1.5 mA × 2
	Reset/EDM input	Approx. 5 mA (For advanced function type only)
	Lock control input	Approx. 2.5 mA
	OSSD operation switching input	Approx. 2.5 mA (For advanced function type only)
Applicable Standards (Safety)		EN61508, IEC61508(SIL3), EN ISO13849-1:2015(PL e, Category 4), EN ISO14119(Type4), IEC60947-5-3, EN60947-5-3, UL 60947-5-2
Protection circuit		Reverse current protection, short-circuit protection and surge protection for each output
Power supply	Power voltage	24 V DC ±20 % (Ripple P-P 10% or less, Class2)
	Power consumption	6 W
Environmental resistance	Enclosure rating	IP65/67 (IEC60529)

	Operating ambient temperature	-20 to 55°C -4 to 131°F (No freezing)
	Operating relative humidity	5% to 95%RH
	Storage temperature	-25 to 70°C -13 to 158°F (No freezing) *4
	Storage relative humidity	5% to 95%RH
	Vibration resistance	10 to 55 Hz, Double amplitude 2.0 mm 0.08" , 5 minutes in each of the X, Y, and Z directions (IEC 60947-5-3)
	Shock resistance	30 G in X, Y, Z directions 6 times each axis (IEC 60947-5-3)
Material	Main unit	PBT, PET/PAR, TPC, PC, Nickel-plated steel
	Actuator	PBT, Painted steel, Nickel-plated steel
	Mounting bracket	Aluminum (Plate and screw: Steel)
Weight	Main unit	Approx.480 g 16.93 oz
	Actuator	Approx.250 g 8.82 oz

*1 When the actuator is pulled first after unlocked, the holding force increases.

*2 Due to the flexible structure of the actuator, the guard can open 3.8 mm **0.15"** larger than the "Sar". The clearance between the actuator and the main unit may be narrowed by a maximum of 2.3 mm **0.09"** due to the magnet power built into the actuator.

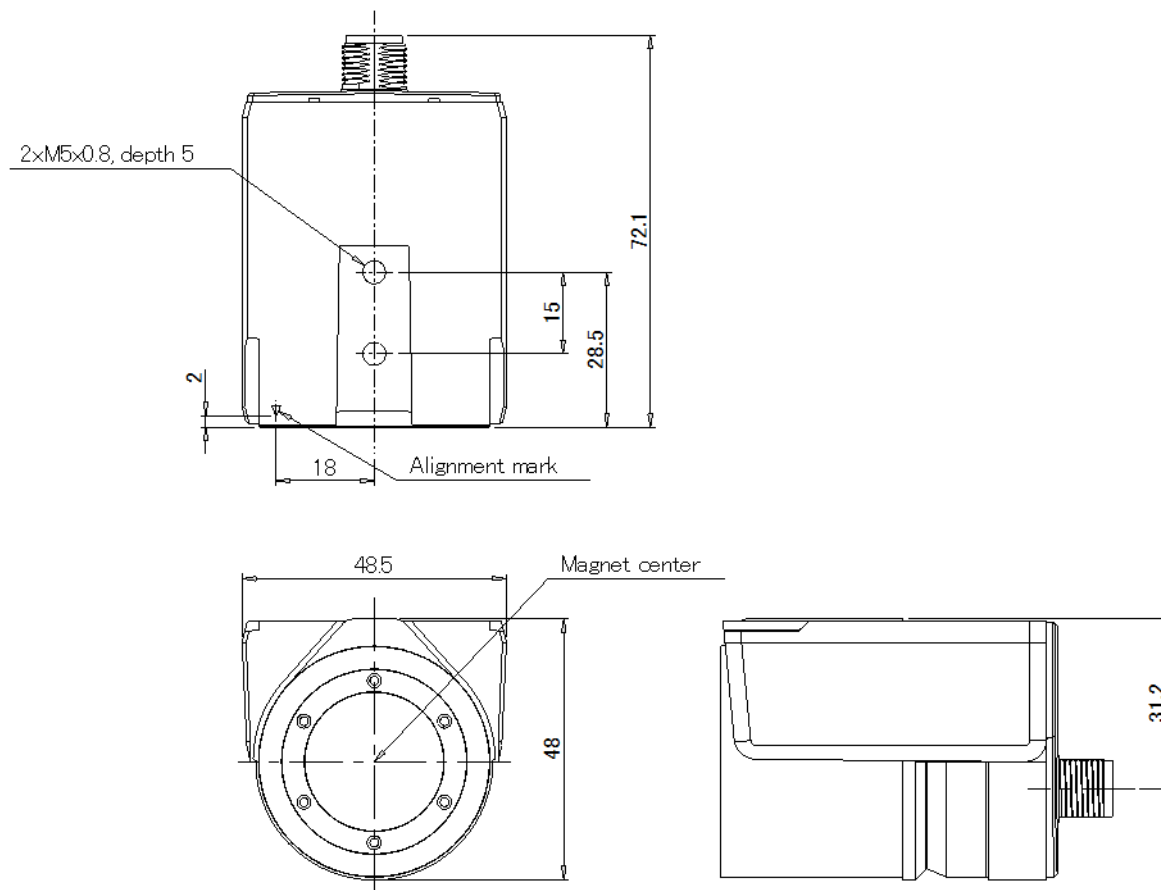
*3 Risk time according to IEC60947-5-3 is 150 ms + 2 ms × (number of cascaded units -1).

*4 When stored for a long period of time, please store it at temperature of 55°C **131°F** or lower.

Dimensions

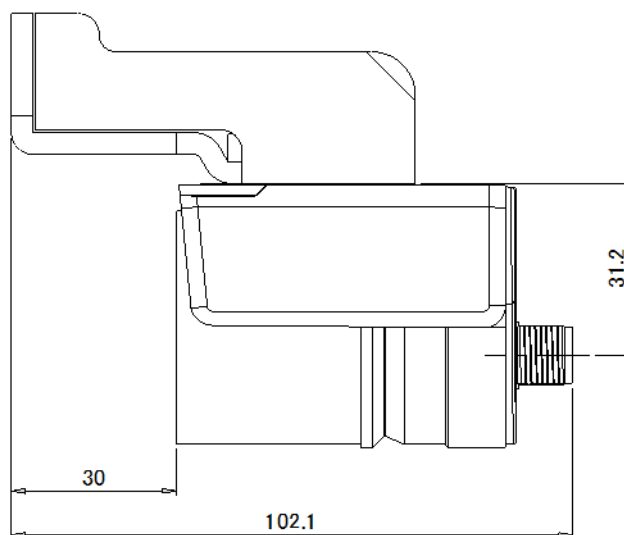
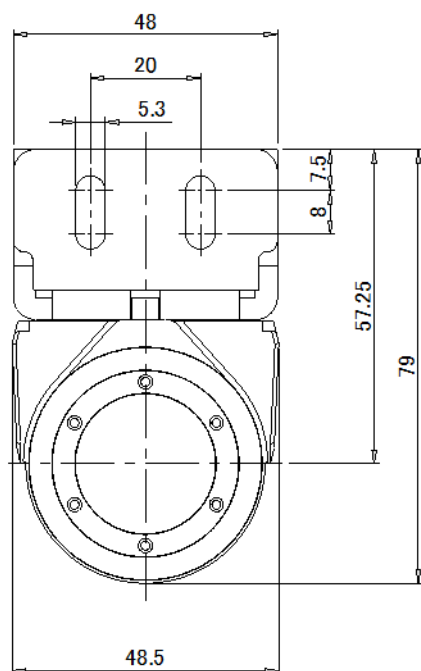
* Download CAD file or product manual for larger image/text and more detail.

GS-M91N/M91P/M93P



GS-M91N/M91P/M93P+GS-MB21

Main unit + Bracket A + Screw C

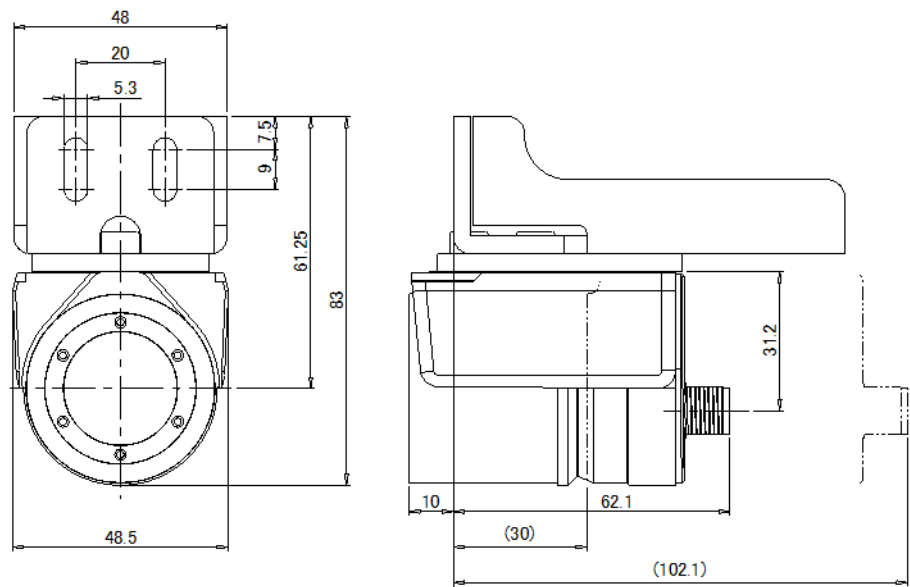


Screw C

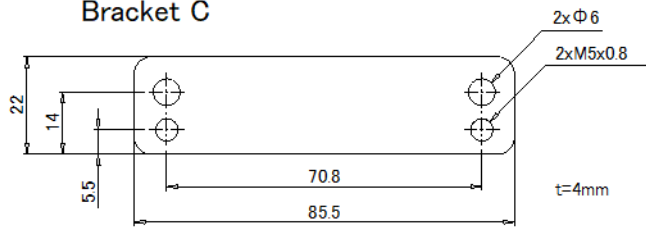
M5 hexagon socket head cap screw x 2
across-flats=4mm, L=8mm

GS-M91N/M91P/M93P+GS-MB22

Main unit + Bracket A + Bracket B + Screw D



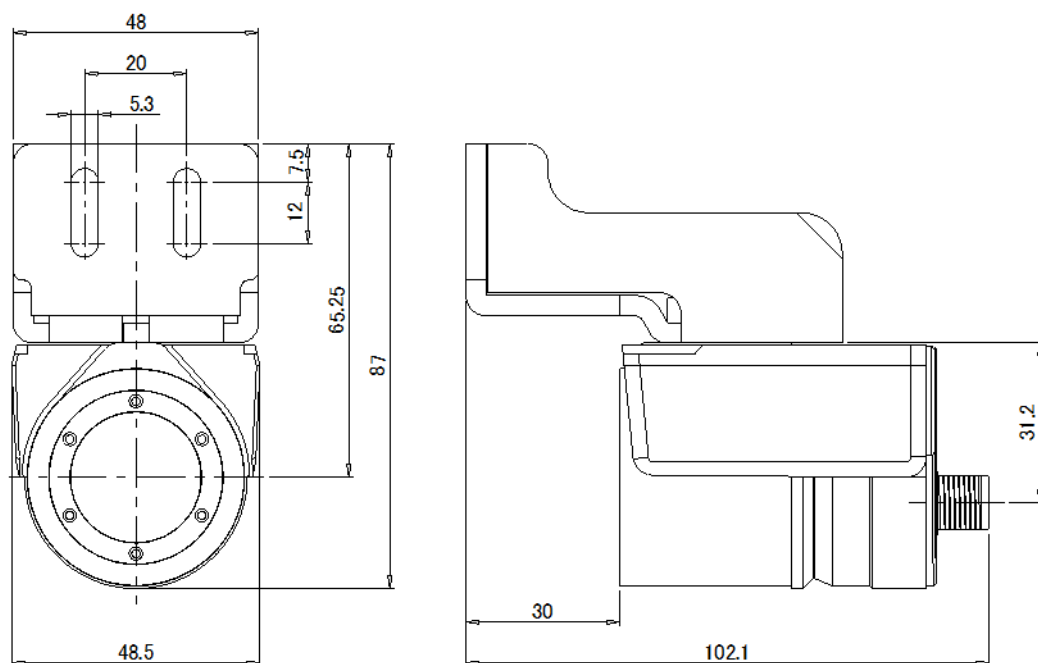
Bracket C



Screw D
M5 hexagon socket head cap screw x 4
across-flats=4mm, L=8mm

GS-M91N/M91P/M93P+GS-MB23

Main unit + Bracket A + Screw C



Screw C

M5 hexagon socket head cap screw x 2
across-flats=4mm, L=8mm