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OS32C Safety Laser Scanner

- Type 3 Safety laser scanner complies with IEC61496-1/-3.
- 70 sets of safety zone and warning zone combinations are available, supporting complicated changes in working environments.
- A safety radius up to 3 m and warning zone(s) radius up to 10 m can be set.
- 8 Individual sector indicators and various LED indications allow the user to determine scanner status at a glance.
- Reference boundary monitoring function prevents unauthorized changes in the scanner position.
- Configurable minimum object resolution of 30, 40, 50 or 70 mm, for hand and arm detection applications

Ordering information

OS32C (Power cable is sold separately.)

Description	Order code
Back location cable entry	OS32C-BP
Side location cable entry*1	OS32C-SP1

*1 For OS32C-SP1, each connector is located on the left as viewed from the back of the I/O block.

Description	Remarks	Order code
Configuration tool	CD-ROM OS supported: Windows 2000/XP/Vista Windows 7	included

Note: The OS32C laser scanner may not be sold or imported into or used in the Federal Republic of Germany prior to December 1, 2013.

Mounting brackets

Type	Remarks	Order code
Bottom/side mounting bracket	Bottom/side mounting bracket x 1, unit mounting screws x 4 sets	OS32C-BKT1
XY axis rotation mounting bracket	XY axis rotation mounting bracket x 1, unit mounting screws x 6 sets, bracket mounting screws x 1 set (must be used with OS32C-BKT1)	OS32C-BKT2

Note: For a full line-up of accessories and spare parts, please refer to the Z298-E1… datasheet.

Specifications

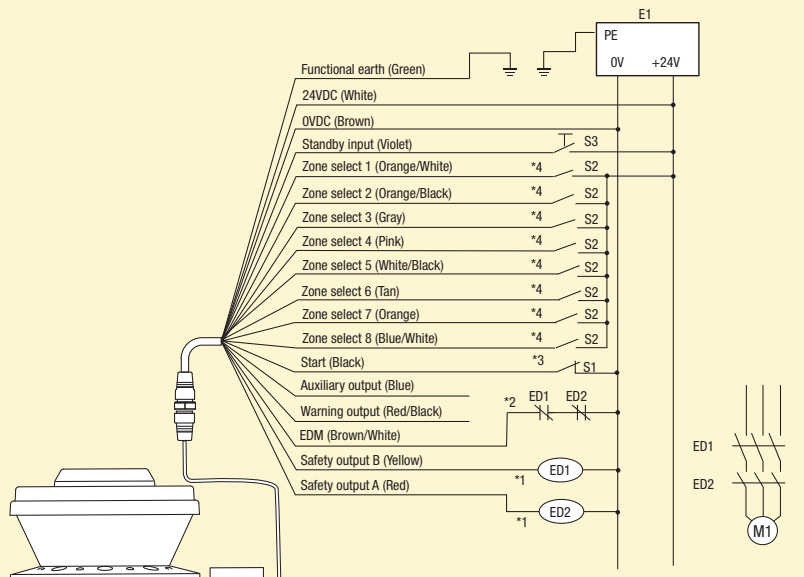
Sensors

Sensor type		Type 3 Safety laser scanner
Safety category		Category 3, performance level d (ISO13849-1: 2006)
Detection capability		Configurable; Non-transparent with a diameter of 30, 40, 50 or 70 mm (1.8% reflectivity or greater)
Monitoring zone		Monitoring zone set count: (Safety zone + 2 warning zones) x 70 sets
Operating range		Safety Zone: 3.0 m (min. obj. resolution of 50 mm or 70 mm) 2.5 m (min. obj. resolution of 40 mm) 1.75 m (min. obj. resolution of 30 mm) Warning Zone: 10.0 m
Detection angle		270°
Response time		Response time from ON to OFF: From 80 ms (2 scans) to 680 ms (up to 17 scans) Response time from OFF to ON: Response time from ON to OFF + 100 ms to 60 s (configurable)
Line voltage		24 VDC +25%/-30% (ripple p-p 2.5 V max.)
Power consumption		Normal operation: 5 W max., 4 W typical (without output load)*1 Standby mode: 3.75 W (without output load)
Safety output (OSSD)		PNP transistor x 2, load current of 250mA max., residual voltage of 2 V max., load capacity of 2.2 µf max., leak current of 1 mA max.*1,*2,*3
Auxiliary output (Non-Safety)		NPN/PNP transistor x 1, load current of 100 mA max., residual voltage of 2 V max., leak current of 1 mA max.*2,*3,*4
Warning output (Non-Safety)		NPN/PNP transistor x 1, load current of 100 mA max., residual voltage of 2 V max., leak current of 1 mA max.*2,*3,*4
Output operation mode		Auto start, start interlock, start/restart interlock
Input	**External Device Monitoring (EDM)**	ON: 0 V short (input current of 50 mA), OFF: Open
	Start	ON: 0 V short (input current of 20 mA), OFF: Open
	Zone select	ON: 24 V short (input current of 5 mA), OFF: Open
	Stand-by	ON: 24 V short (input current of 5 mA), OFF: Open
Connection type		Power cable: 18-pin mini-connector (pigtail) Communication cable: M12, 4-pin connector
Connection with PC		Communication: Ethernet
Indicators		RUN indicator: Green, STOP indicator: Red, Interlock indicator: Yellow, Warning output indicator: Orange, Status/diagnostic display: 2 x 7-segment LEDs, Intrusion indicators: Red LED x 8
Enclosure rating		IP65 (IEC60529)
Dimensions (WxHxD)		133.0 x 104.5 x 142.7 mm (except cable)
Weight (Main Unit only)		1.3 kg
Approvals		Certified by: TÜV Rheinland, UL Major Standards: IEC61496-1/-3 (Type 3), IEC61508 (SIL2), ISO13849-1:2008 (Category 3, Performance Level d), UL508, UL1998

*1 Rated current of OS32C is 1.025 A max. (OS32C 210 mA + OSSD A load + OSSD B load + auxiliary output load + warning output load + functional Inputs). Where functional inputs are: EDM input ... 50 mA Start input ... 20 mA Standby input ... 5 mA Zone X input ... 5 mA x 8 (eight zone set select inputs)
*2 Output voltage is input voltage - 2.0 VDC.
*3 Total consumption current of 2 OSSDs, auxiliary output, and warning output must not exceed 700 mA.
*4 Output polarity (NPN/PNP) is configurable via the configuration tool.

Connection

Basic connection with single OS32C unit
Category 3, performance level d (ISO13849-1)



S1 : Start input
S2 : Zone select switch
S3 : Standby switch
ED1, ED2: Forced guided relay
M1 : 3-Phase motor
E1 : 24 VDC Power

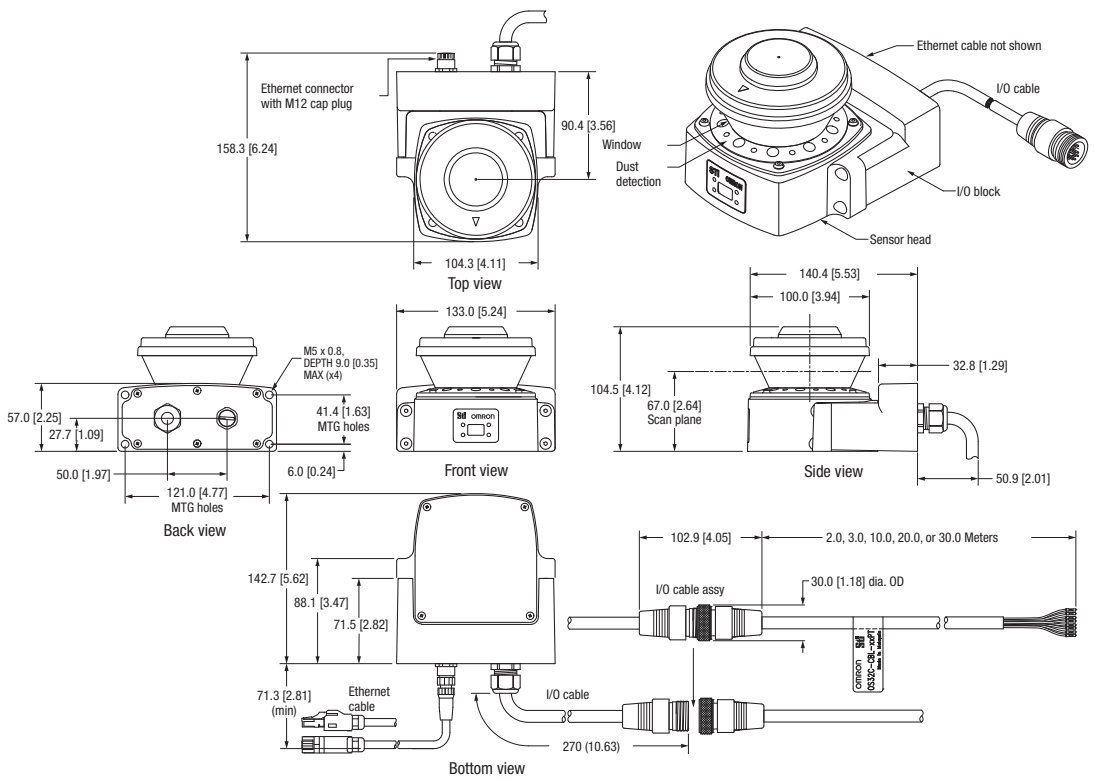
OS32C Configuration
- External Device Monitoring enabled
- Start/restart interlock

*1. External devices (ED1, ED2) are forced guide relays. (G7Z, G7SA, G7S, etc)
*2. If the External Device Monitoring is not used, connect brown/white wires to 0 V, and then turn OFF the External Device Monitoring with the configuration software.
*3. Use NC-contact for a start input.
*4. For zone select switch setting, refer to OS32C Series user's manual.

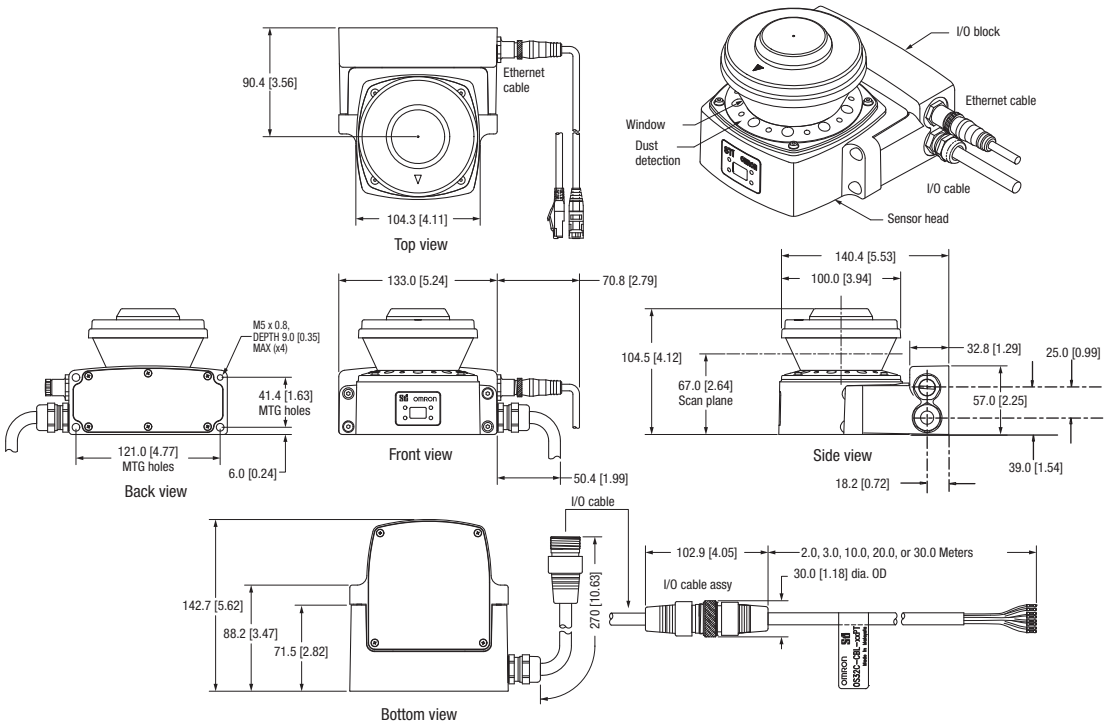
Note: This wiring example is for category 3.

Dimensions

OS32C with back location cable entry - OS32C-BP



OS32C with side LIcation cable entry - OS32C-SP1



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