



Figure can vary

Part no.: 53800102
RSL420-S
Safety laser scanner



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- Technical data
- Dimensioned drawings
- Operation and display
- Accessories
- Notes

Part no.: 53800102 – RSL420-S – Safety laser scanner

Technical data

Basic data

Series	RSL 400
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Functions

Functions	E-stop linkage Dynamic contactor monitoring (EDM), selectable Four-field mode Resolution, selectable
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Characteristic parameters

Type	3, IEC/EN 61496
SIL	2, IEC 61508
SILCL	2, IEC/EN 62061
Performance Level (PL)	d, EN ISO 13849-1
PFH _D	9E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	3, EN ISO 13849

Protective field data

Scanning angle	270 °
Minimum adjustable range	200 mm
Number of field pairs, reversible	10
Number of quads, reversible	10
Number of protective functions	1 Piece(s)
Number of independent sensor configurations	1
Diffuse reflection, min.	1.8 %
Operating range	0 ... 3 m

Warning field data

Number of field pairs	10
Operating range	0 ... 20 m
Object size	150 mm x 150 mm
Diffuse reflection, min.	1.8 %

Optical data

Light source	Laser, Infrared
Laser light wavelength	905 nm
Laser class	1, IEC/EN 60825-1:2007
Transmitted-signal shape	Pulsed
Repetition frequency	90 kHz

Measurement data

Radial resolution	5 mm
Detection range	0 ... 50 m
Angular resolution	0.1 °

Electrical data

Protective circuit	Overvoltage protection
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Performance data

Supply voltage	24 V, DC, -30 ... 20 %
Current consumption (without load), max.	700 mA, (use power supply unit with 3 A)
Power consumption, max.	17 W, For 24 V, plus output load

Outputs

Number of safety-related switching outputs (OSSDs)	2 Piece(s)
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Safety-related switching outputs

Type	Safety-related switching output OSSD
Switching voltage high, min.	20.8 V
Switching voltage low, max.	2 V
Voltage type	DC

Safety-related switching output 1

Switching element	Transistor, PNP
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Safety-related switching output 2

Switching element	Transistor, PNP
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Interface

Type	Bluetooth
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Bluetooth

Function	Configuration/parametering
Frequency band	2,400 ... 2,483.5 MHz
Radiated transmitting power	Max. 4.5 dBm (2.82 mW), class 2

Connection

Cable properties

Cable resistance, max.	15 Ω
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Mechanical data

Dimension (W x H x L)	140 mm x 149 mm x 140 mm
Housing material	Metal Plastic, Diecast zinc,
Lens cover material	Plastic/PC
Net weight	2,000 g
Housing color	Yellow, RAL 1021
Type of fastening	Mounting plate Via optional mounting device Through-hole mounting

Operation and display

Type of display	Alphanumeric display LED indicator
Number of LEDs	3 Piece(s)
Type of configuration	Software Sensor Studio
Operational controls	Software Sensor Studio

Environmental data

Ambient temperature, operation	0 ... 50 °C
Ambient temperature, storage	-20 ... 60 °C

Certifications

Degree of protection	IP 65
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Protection class	III, EN 61140
Certifications	TÜV Süd c UL US c TÜV Süd US
US patents	US 7,656,917 B US 2016/0086469 A US 8,520,221 B US 7,696,468 B

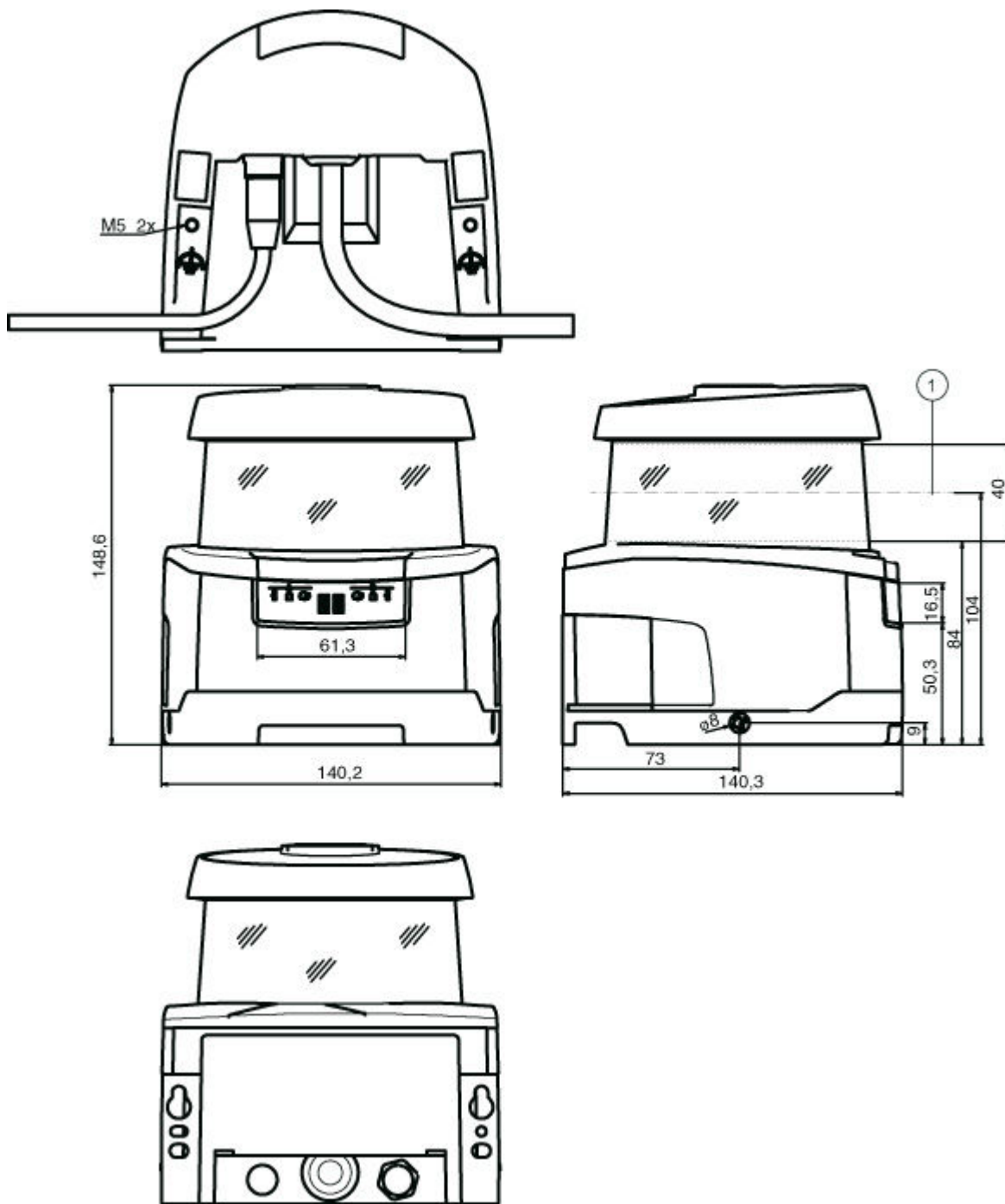
Classification

eCl@ss 8.0	27272705
eCl@ss 9.0	27272705
ETIM 5.0	EC002550

Dimensioned drawings

All dimensions in millimeters

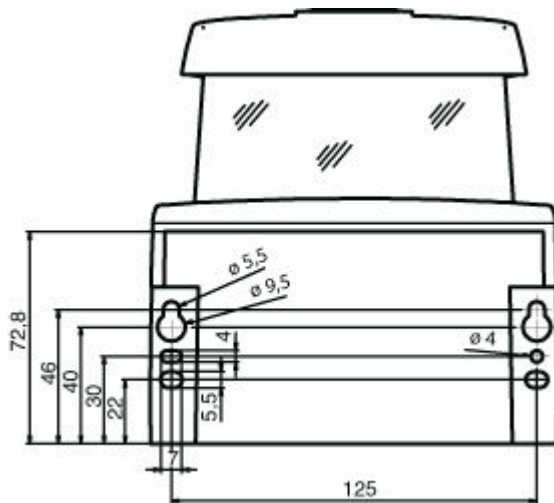
Dimensions safety laser scanner with connection unit



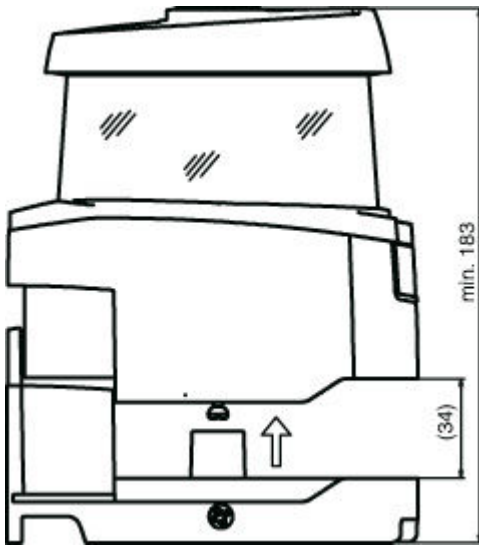
1 Scan level

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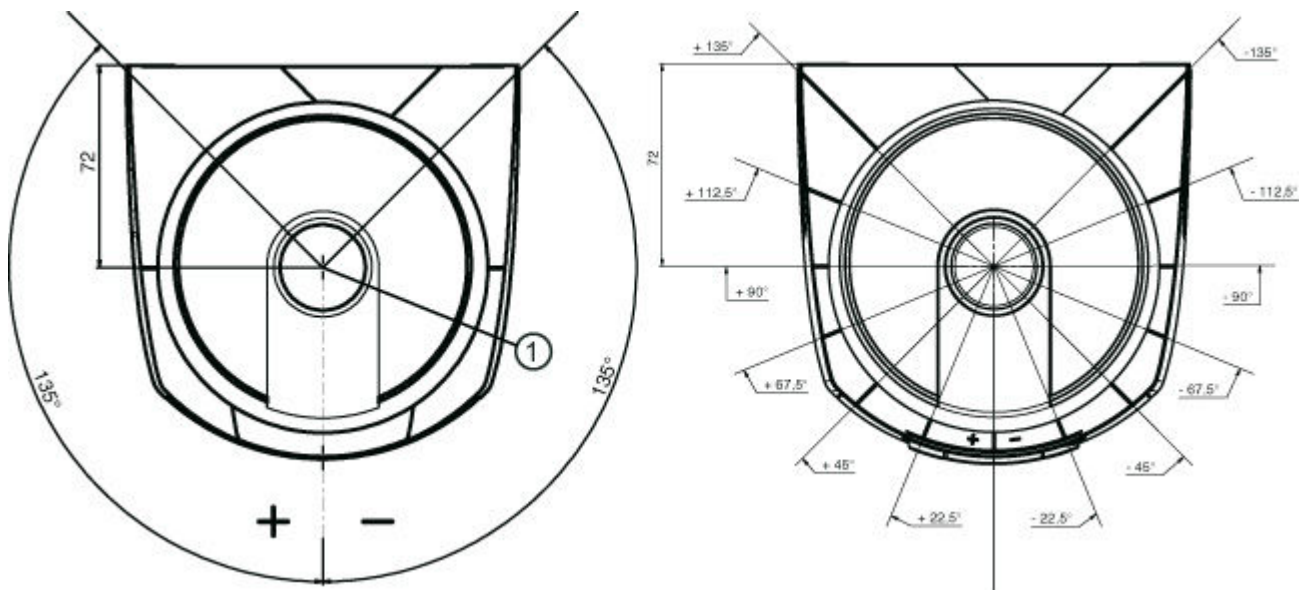
Mounting dimensions safety laser scanner with connection unit



Minimum space requirements for installation and replacement of scanner unit



Dimensions of scanning range



1 Reference point for distance measurement and protective field radius


Operation and display

LEDs






LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	OSSD off
	Red, flashing	Error
	Green, continuous light	OSSD on
2	Off	RES deactivated or RES activated and released
	Yellow, flashing	Protective field occupied
	Yellow, continuous light	RES activated and blocked but ready to be unlocked - protective field free and linked sensor is enabled if applicable
3	Off	Free warning field
	Blue, continuous light	Warning field interrupted

Accessories





Connection technology - Terminal boxes

	Part no.	Designation	Article	Description
	53800125	CU411-RS4	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable with Sub-D, 450 mm, PUR, 15 -pin Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system


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	Part no.	Designation	Article	Description
	53800119	CU416-10000	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable, 10,000 mm, PVC, 16 -wire Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system
	53800120	CU416-25000	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable, 25,000 mm, PVC, 16 -wire Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system
	53800180	CU416-300-WPU	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable with connector, M30, 300 mm, PVC, 16 -pin Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system
	53800118	CU416-5000	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable, 5,000 mm, PVC, 16 -wire Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system
	53800182	CU416-50000	Connection unit	Number of connections: 2 Piece(s) Connection 1: Cable, 50,000 mm, PVC, 16 -wire Connection 2: Connector, M12, D-coded, 5 -pin Dimensions: 140.2 mm x 72.8 mm x 140.3 mm Color: Black Type of fastening: Bayonet system

Mounting technology - Mounting brackets


	Part no.	Designation	Article	Description
	53800134	BT840M	Mounting bracket	Dimensions: 84.9 mm x 72 mm x 205.2 mm Color: Yellow, RAL 1021 Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal
	53800135	BT856M	Mounting bracket	Dimensions: 119 mm x 72 mm x 233.5 mm Color: Yellow, RAL 1021 Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal
	53800132	BTF815M	Mounting bracket	Dimensions: 186 mm x 120 mm x 288 mm Color: Yellow, RAL 1021 Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal
	53800133	BTF830M	Mounting bracket	Dimensions: 186 mm x 275 mm x 288 mm Color: Yellow, RAL 1021 Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal

Mounting technology - Other



	Part no.	Designation	Article	Description
	53800130	BTU800M	Mounting system	Dimensions: 54.5 mm x 90 mm x 192 mm Color: Black Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal

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Mounting

	Part no.	Designation	Article	Description
	53800131	BTP800M	Loop guard	Dimensions: 160 mm x 169 mm Color: Black Material: Metal

General

	Part no.	Designation	Article	Description
	430400	RS4-clean-Set1	Cleaning set	Number of cleaning cloths: 40 Piece(s) Content of cleaning fluid: 150 ml
	430410	RS4-clean-Set2	Cleaning set	Number of cleaning cloths: 120 Piece(s) Content of cleaning fluid: 1,000 ml

Notes

Observe intended use!

- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

WARNING! INVISIBLE LASER RADIATION – LASER CLASS 1

The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product of **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.

- Observe the applicable statutory and local laser protection regulations.
- The device must not be tampered with and must not be changed in any way.
There are no user-serviceable parts inside the device.
Repairs must only be performed by Leuze electronic GmbH + Co. KG.