DATA SHEET

Industrial Safety Systems

V200 / V300 Work Station Extended:
New perspectives in the hazardous point protection

SICK
Sensor Intelligence.

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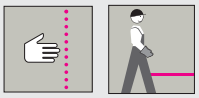


- Simplest integration
- Intuitive one button set up
- One system fits all protective field sizes
- Flexible protective field geometries
- Automatic alignment
- Restart/reset, EDM integrated

Overview of technical specifications

Maximum protective field range	2.12 m [1]
Minimum protective field size	40 cm x 40 cm [1]
Maximum protective field size	150 cm x 150 cm [1]
Resolution	20 mm, 24 mm, 30 mm [1]
Response time	20 ms
Type	Type 3 (IEC 61496)
Safety integrity level	SIL 2 (IEC 61508)
Performance Level	PL d (EN ISO 13849)

[1] Depending on resolution set

Product description

V300 Work Station Extended – the reduction course for hazardous point protection. The V300 Work Station Extended is a sensor based on innovative camera technology, developed for monitoring hazardous points on typically rectangular action openings - with just one component, mounted in a corner of the safety area, saving space and in a protected location.
The “one sensor fits all sizes“ concept puts an end to the numerous types – one sensor combined with the suitable resolution set covers the most diverse protective field sizes.
In combining two V300 Work Station Extended the protective field size can be enhanced up to 300 cm x 150 cm.
Reduces costs due to

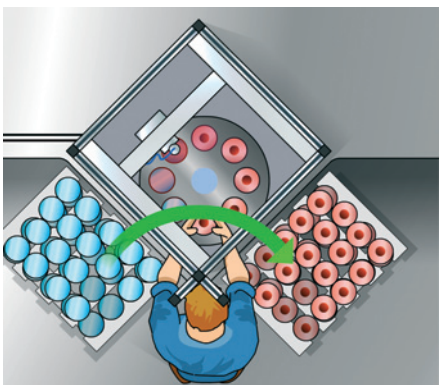
- No variants: simplified stock-keeping
- One component: quick installation and commissioning, minimum use of resources
- Minimum power consumption

Applications

→ You can find more applications using the application finder at www.mysick.com

- Hazardous point protection in semi-automatic work processes
- Protecting of test, assembly and inspection stations
- Service openings with sporadic access
- Presence detection

Hazardous point protection on a semi-automatic assembly machine.



Hazardous point protection on a semi-automatic assembly machine. The combination of two camera systems can increase ergonomics.

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Ordering information

Delivery V300 Work Station Extended:
- Camera
- Teach-in pin
- Label “Important Information“
- Operating instructions on CD-ROM
- Easy Installation Guide (instructions for quick commissioning), in several languages

A resolution set has to be ordered separately!

Type	Part number
V30W-0101000	1041542

→ Ordering information resolution sets and accessories (page 6)

Technical specifications

→ You can find more detailed data in the operating instructions. Download at www.mysick.com

General data

Protection class	III (EN 50178)
Enclosure rating	IP 54 (IEC 60529)
Safety related parameters	
Type	Type 3 (IEC 61496)
Safety integrity level	SIL 2 (IEC 61508) SILCL2 (EN 62061)
Category	Category 3 (EN ISO 13849)
Performance Level	PL d (EN ISO 13849)
PFHd (mean probability of a dangerous failure per hour)	3,2 x 10^{-9}
T_M (Mission Time)	20 years (EN ISO 13849)
Ambient operating temperature from ... to	0 °C ... +50 °C
Wave length illumination	850 nm
Dimensions	90 mm x 50 mm x 90 mm
Maximum protective field range	2.12 m [1)]
Minimum protective field size	40 cm x 40 cm [1)]
Maximum protective field size	150 cm x 150 cm [1)]
Aspect ratio protective field	1:1 to 2:1
Resolution	20 mm, 24 mm, 30 mm [1)]
Response time	20 ms

[1)] Depending on resolution set

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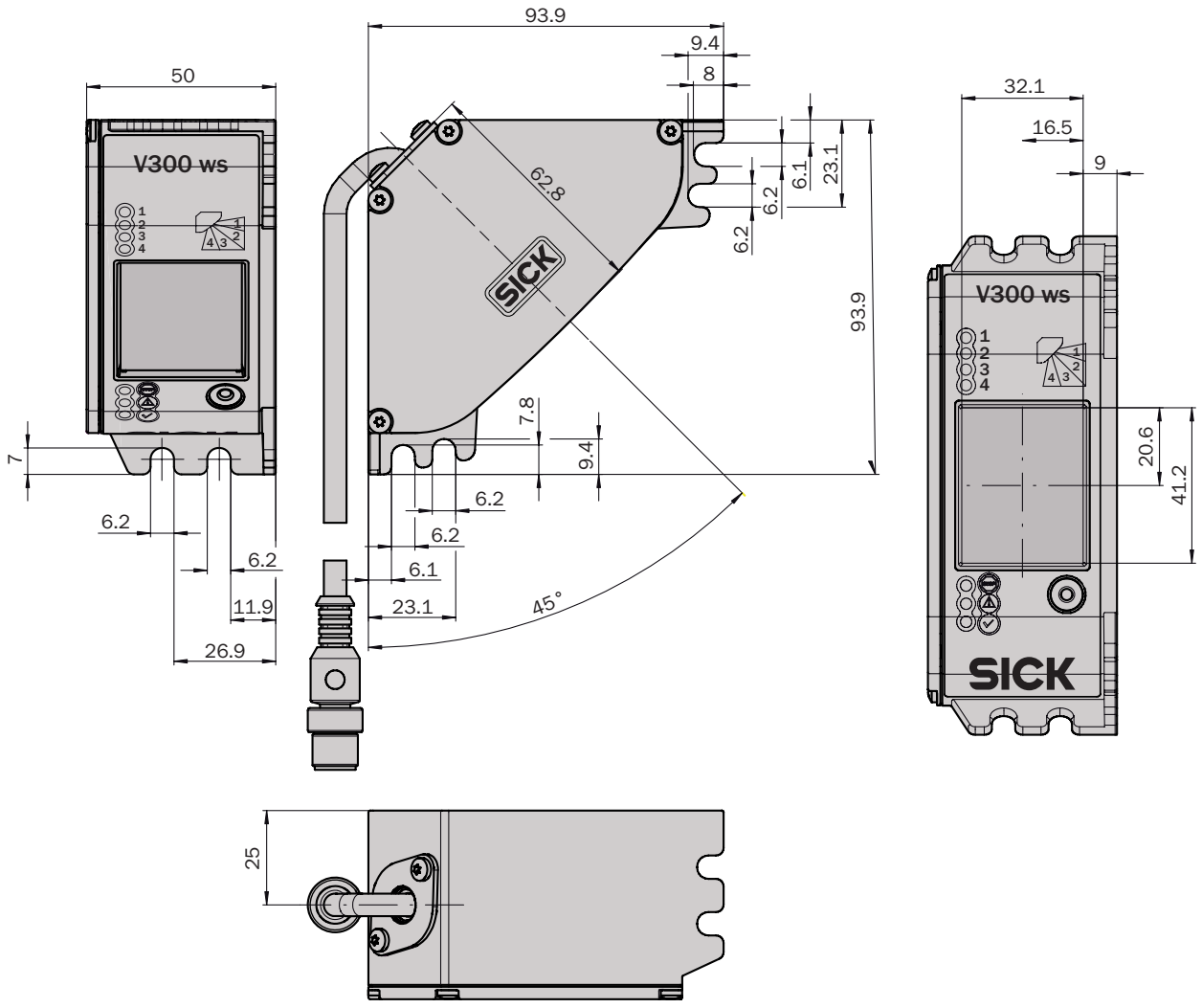
Electrical data

Connection type	
System connection	M12 x 8
Supply voltage	24 V DC
Power consumption	
Including maximum output load	Max. 690 mA
At 24 V without output load	165 mA
Number of inputs	
External device monitoring	1
Restart interlock	1
Teach/Sync	1
Switching outputs	2
Switching current	6 mA ... 250 mA

Dimensional drawings



Dimensions in mm

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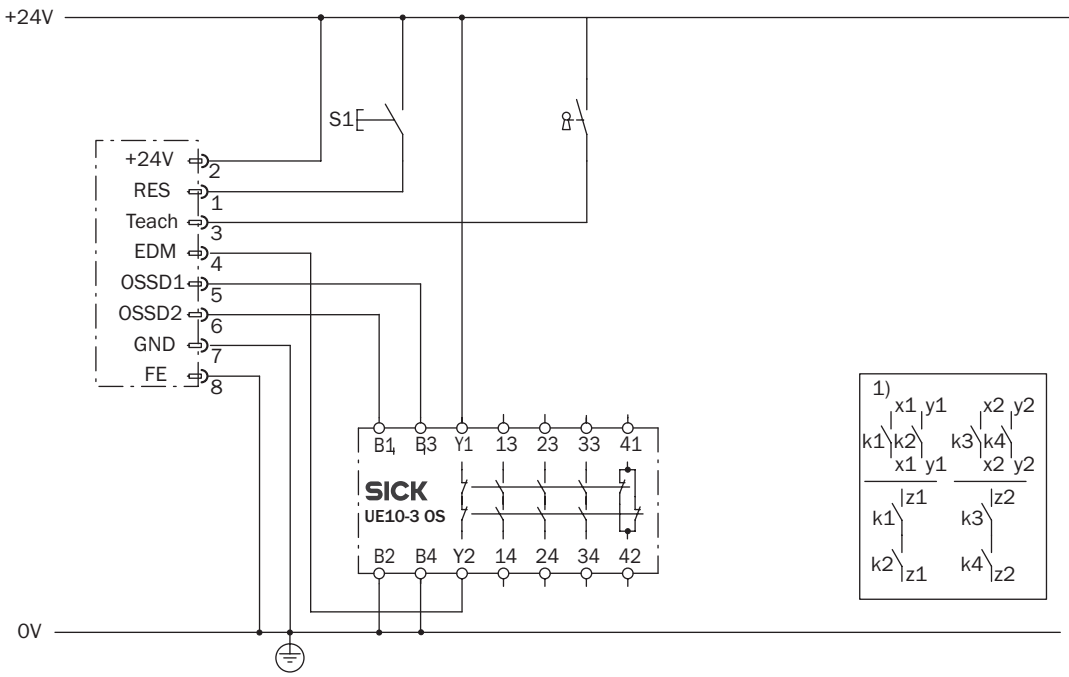
Connection diagrams

➜ You can find connection diagrams at www.mysick.com

V300 Work Station Extended on UE10-3OS with external device monitoring (EDM) and internal restart interlock



Task

The V300 Work Station Extended safety camera system can be integrated into a relay controller/contactor controller with the aid of the UE10-3OS safety relay. Operation is with external device monitoring (EDM) and internal restart interlock.

Function

If the light path is clear and there are no errors in the quiescent state of the UE10-3OS, the status LED on the V300 Work Station Extended flashes (Reset required). The system is ready for switch on and waits for an input signal/switch on signal. The system is enabled by pressing and releasing the button S1. The outputs OSSD1 and OSSD2 carry power. The UE10-3OS is switched on. On interruption of the light path, the UE10-3OS is de-energized by the OSSD1 and OSSD2 outputs.

Possible faults

Cross-circuits and short-circuits on the outputs OSSD1 and OSSD2 are detected and will result in “lock-out“. Malfunctions on the UE10-3OS are detected. The shutdown function is retained. If the button S1 is tampered with (e.g. by jamming) the system will not re-enable the output circuits.

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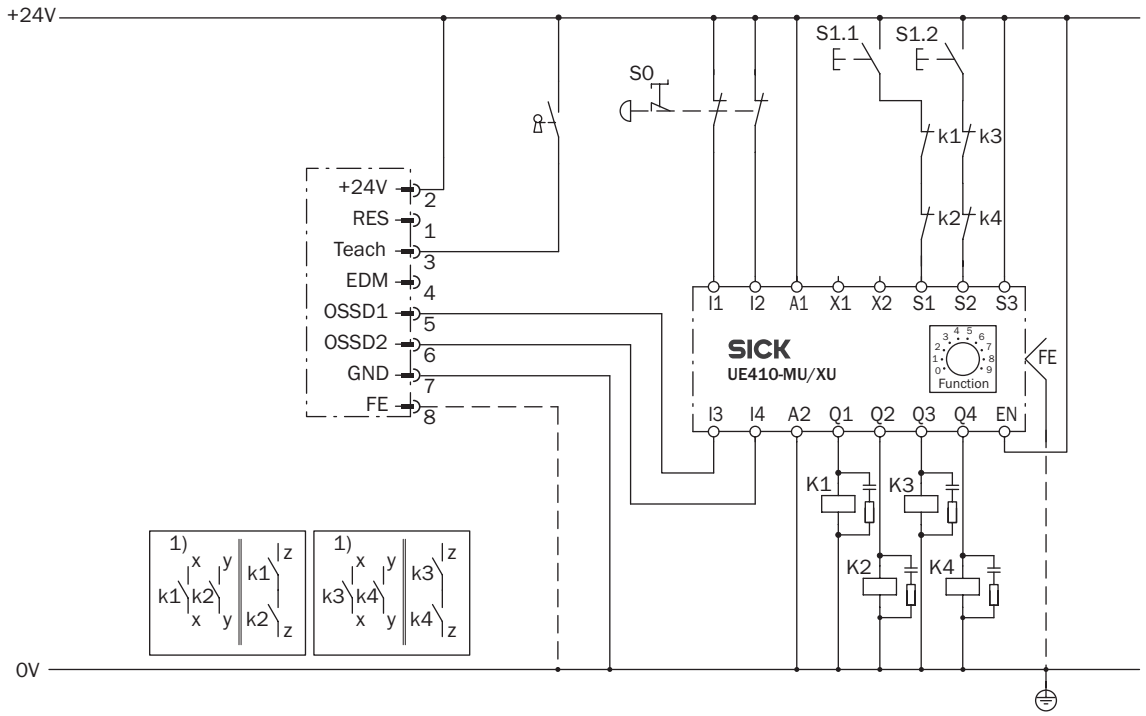
V300 Work Station Extended on Flexi Classic with external device monitoring (EDM) and with restart interlock both for V300 Work Station Extended as well as for emergency switching off



Task

The V300 Work Station Extended safety camera system can be integrated into a relay controller/contactor controller with the aid of the modular Flexi Classic (UE410-MU with expansion UE410-XU) safety controller. Operation is with external device monitoring and internal restart interlock on the V300 Work Station Extended as well as restart interlock for the emergency switching off button.

Function

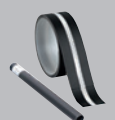
When the light path on the V300 Work Station Extended is clear and the input conditions on the Flexi Classic are valid, the system is ready for switch on and waits for an input signal/switch on signal. The system's corresponding logic path is enabled by pressing and releasing the related button S1. The related output on the Flexi Classic carries power. If the input conditions are no longer met, then the related outputs on the Flexi Classic shut down.

Possible faults

Cross-circuits and short-circuits on the connection cable for the V300 Work Station Extended are detected and result in "lock-out". Malfunctions on the contactors K1 to K4 are detected. The shutdown function is retained. If the button S1.x is tampered with (e.g. by jamming) the system will not re-enable the output circuits.

Accessories

Resolution sets

Figure	Description	Maximum protective field range	Minimum protective field size	Maximum protective field size	Type	Part number
 Presentation similar	Reflector 2 x 1.0 m with test rod, 20 mm diameter	Max. 1.41 m	40 cm x 40 cm	100 cm x 100 cm	Resolution set 20 mm	2051336
	Reflector 2 x 1.2 m with test rod, 24 mm diameter	Max. 1.7 m	40 cm x 40 cm	120 cm x 120 cm	Resolution set 24 mm	2051338
	Reflecotr 2 x 1.5 m with test rod, 30 mm diameter	Max. 2.12 m	60 cm x 60 cm	150 m x 150 cm	Resolution set 30 mm	2051339

Mounting systems

Figure	Mounting	Type	Part number
	For mounting the sensor on profile frame	Mounting kit	2045375

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Connection cable

Figure	Connection type	Cable length	Type	Part number
	M12 x 7 + FE	2.5 m	DOL-127SG2M5E25KM0	6020537
		5 m	DOL-127SG05ME25KM0	6020354
		7.5 m	DOL-127SG7M5E25KM0	6020353

Power supply units

Figure	Input voltage	Output voltage	Maximum output current	Part number
	100 V AC ... 240 V AC	24 V DC	3.9 A	7028790
			2.1 A	7028789

Configuration tools

Figure	Type	Part number
	Teach-in stylus	4052939

Device protection

Figure	Description	Type	Part number
 Presentation similar	20 mm diameter	Test rod	2022600
	24 mm diameter	Test rod	2045592
	30 mm diameter	Test rod	2022602
	Test rod holder	BEF-3WNAAAAL1	2052249

Reflective tapes [1)]

Figure	Description	Dimensions (L X W X H)	Items supplied	Part number
	Robust version	1 m x 3.6 cm x 0.08 cm	2 pieces	2046005
		1.2 m x 3.6 cm x 0.05 cm	2 pieces	2051581
		1.5 m x 4.8 cm x 0.05 cm	2 pieces	2051582

[1)] Additional types on request

Solvents and cleaning agents

Figure	Description	Type	Part number
	Solvent for adhesive, spray bottle, suitable for removing the reflective tape	Solvent for adhesive	5602135
	Plastic cleaner and care product, anti-static	Plastic cleaner	5600006

Other

Figure	Description	Type	Part number
	Cloth for cleaning the front screen	Optical cleaning cloth	4003353

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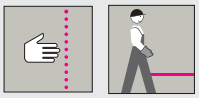

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- Intuitive one button set up
- One system fits all protective field sizes
- Flexible protective field geometries
- Automatic alignment
- Restart/reset, EDM integrated

Overview of technical specifications

Maximum protective field range	2.12 m [1]
Minimum protective field size	40 cm x 40 cm [1]
Maximum protective field size	150 cm x 150 cm [1]
Resolution	20 mm, 24 mm, 30 mm [1]
Response time	20 ms
Type	Type 2 (IEC 61496)
Safety integrity level	SIL1 (IEC 61508)
Performance Level	PL c (EN ISO 13849)

[1] Depending on resolution set

Product description

V200 Work Station Extended – the reduction course for hazardous point protection. The V200 Work Station Extended is a sensor based on innovative camera technology, developed for monitoring hazardous points on typically rectangular action openings - with just one component, mounted in a corner of the safety area, saving space and in a protected location.
The “one sensor fits all sizes“ concept puts an end to the numerous types – one sensor combined with the suitable resolution set covers the most diverse protective field sizes.
In combining two V200 Work Station Extended the protective field size can be enhanced up to 300 cm x 150 cm.
Reduces costs due to

- No variants: simplified stock-keeping
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Applications

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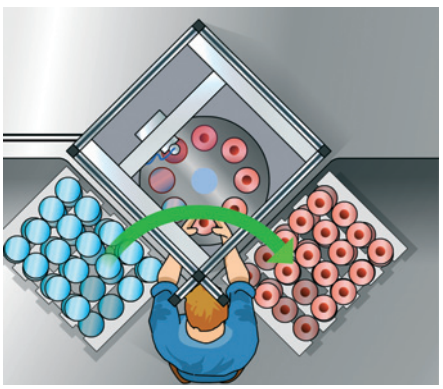
- Protecting of test, assembly and inspection stations
- Service openings with sporadic access
- Presence detection

Hazardous point protection on a semi-automatic assembly machine.



Hazardous point protection on a semi-automatic assembly machine. The combination of two camera systems can increase ergonomics.

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Ordering information

Delivery V200 Work Station Extended:
- Camera
- Teach-in pin
- Label “Important Information“
- Operating instructions on CD-ROM
- Easy Installation Guide (instructions for quick commissioning), in several languages

A resolution set has to ordered separately!

Type	Part number
V20W-0101000	1042027

→ Ordering information resolution sets and accessories (page 12)

Technical specifications

→ You can find more detailed data in the operating instructions. Download at www.mysick.com

General data

Protection class	III (EN 50178)
Enclosure rating	IP 54 (IEC 60529)
Safety related parameters	
Type	Type 2 (IEC 61496)
Safety integrity level	SIL1 (IEC 61508) SILCL1 (EN 62061)
Category	Category 2 (EN ISO 13849)
Test rate (internal test)	50 /s (EN ISO 13849)
Maximum demand rate	30 /min (EN ISO 13849) [1]
Performance Level	PL c (EN ISO 13849)
PFHd (mean probability of a dangerous failure per hour)	$3{,}2 \times 10^{-9}$
T_M (Mission Time)	20 years (EN ISO 13849)
Ambient operating temperature from ... to	0 °C ... +50 °C
Wave length illumination	850 nm
Dimensions	90 mm x 50 mm x 90 mm
Maximum protective field range	2.12 m [2]
Minimum protective field size	40 cm x 40 cm [2]
Maximum protective field size	150 cm x 150 cm [2]
Aspect ratio protective field	1:1 to 2:1
Resolution	20 mm, 24 mm, 30 mm [2]
Response time	20 ms

[1] Between two demands on a safety-related response of the device at least 100 internal or external tests must be carried out.

[2] Depending on resolution set

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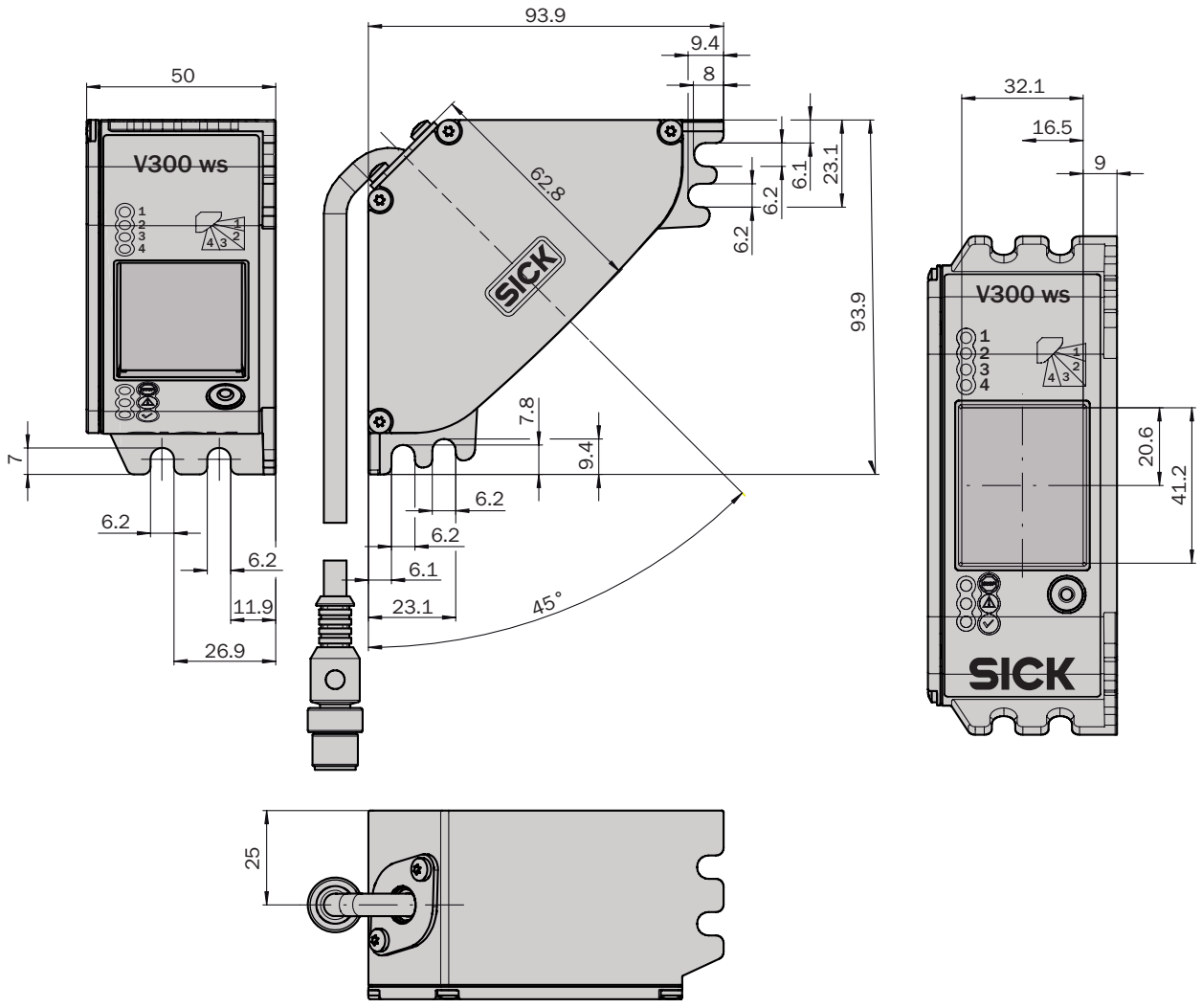
Electrical data

Connection type	
System connection	M12 x 8
Supply voltage	24 V DC
Power consumption	
Including maximum output load	Max. 690 mA
At 24 V without output load	165 mA
Number of inputs	
External device monitoring	1
Restart interlock	1
Teach/Sync	1
Switching outputs	2
Switching current	6 mA ... 250 mA

Dimensional drawings



Dimensions in mm

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Connection diagrams

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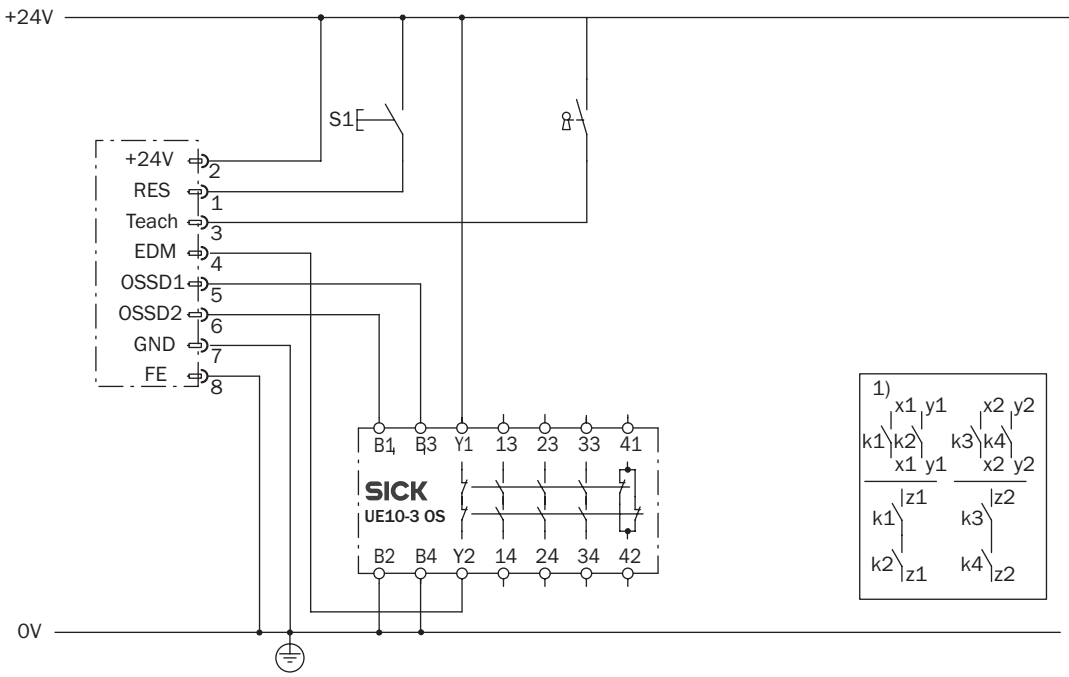
V200 Work Station Extended on UE10-3OS with external device monitoring (EDM) and internal restart interlock



Task

The V200 Work Station Extended safety camera system can be integrated into a relay controller/contactor controller with the aid of the UE10-3OS safety relay. Operation is with external device monitoring (EDM) and internal restart interlock.

Function

If the light path is clear and there are no errors in the quiescent state of the UE10-3OS, the status LED on the V200 Work Station Extended flashes (Reset required). The system is ready for switch on and waits for an input signal/switch on signal. The system is enabled by pressing and releasing the button S1. The outputs OSSD1 and OSSD2 carry power. The UE10-3OS is switched on. On interruption of the light path, the UE10-3OS is de-energized by the OSSD1 and OSSD2 outputs.

Possible faults

Cross-circuits and short-circuits on the outputs OSSD1 and OSSD2 are detected and will result in “lock-out“. Malfunctions on the UE10-3OS are detected. The shutdown function is retained. If the button S1 is tampered with (e.g. by jamming) the system will not re-enable the output circuits.

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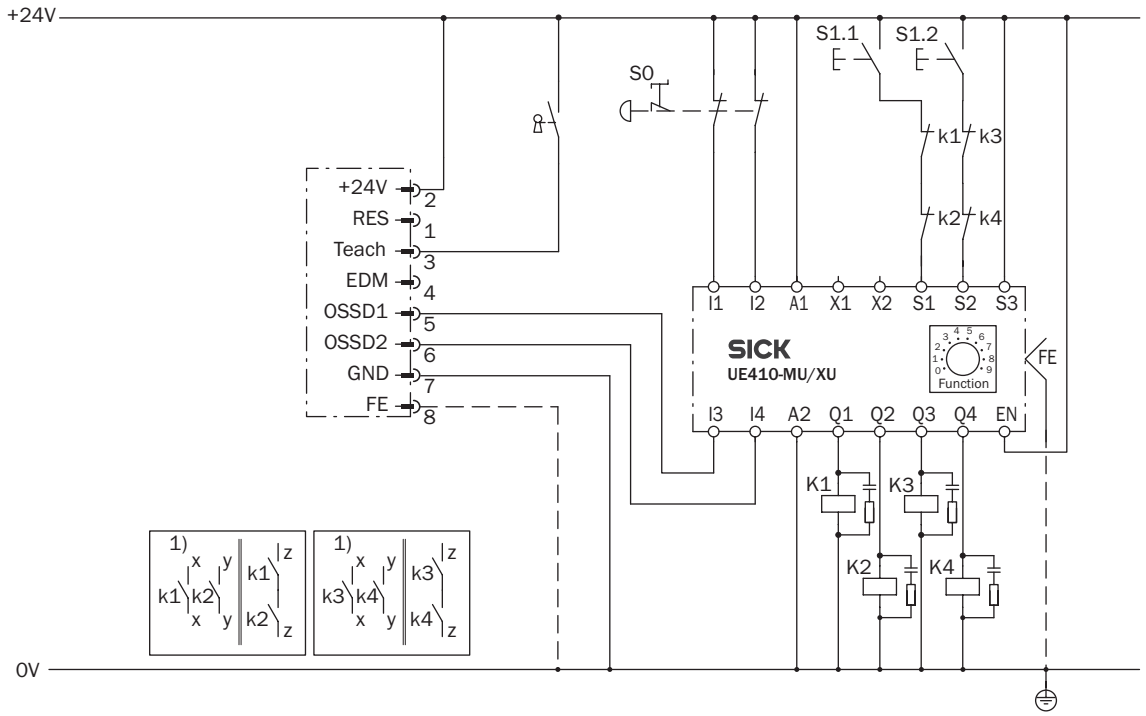
V200 Work Station Extended on Flexi Classic with external device monitoring (EDM) and with restart interlock both for V200 Work Station Extended as well as for emergency switching off



Task

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Function

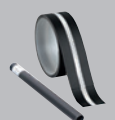
When the light path on the V200 Work Station Extended is clear and the input conditions on the Flexi Classic are valid, the system is ready for switch on and waits for an input signal/switch on signal. The system's corresponding logic path is enabled by pressing and releasing the related button S1. The related output on the Flexi Classic carries power. If the input conditions are no longer met, then the related outputs on the Flexi Classic shut down.

Possible faults

Cross-circuits and short-circuits on the connection cable for the V200 Work Station Extended are detected and result in "lock-out". Malfunctions on the contactors K1 to K4 are detected. The shutdown function is retained. If the button S1.x is tampered with (e.g. by jamming) the system will not re-enable the output circuits.

Accessories

Resolution sets

Figure	Description	Maximum protective field range	Minimum protective field size	Maximum protective field size	Type	Part number
 Presentation similar	Reflector 2 x 1.0 m with test rod, 20 mm diameter	Max. 1.41 m	40 cm x 40 cm	100 cm x 100 cm	Resolution set 20 mm	2051336
	Reflector 2 x 1.2 m with test rod, 24 mm diameter	Max. 1.7 m	40 cm x 40 cm	120 cm x 120 cm	Resolution set 24 mm	2051338
	Reflecotr 2 x 1.5 m with test rod, 30 mm diameter	Max. 2.12 m	60 cm x 60 cm	150 m x 150 cm	Resolution set 30 mm	2051339

Mounting systems

Figure	Mounting	Type	Part number
	For mounting the sensor on profile frame	Mounting kit	2045375

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Connection cable

Figure	Connection type	Cable length	Type	Part number
	M12 x 7 + FE	2.5 m	DOL-127SG2M5E25KM0	6020537
		5 m	DOL-127SG05ME25KM0	6020354
		7.5 m	DOL-127SG7M5E25KM0	6020353

Power supply units

Figure	Input voltage	Output voltage	Maximum output current	Part number
	100 V AC ... 240 V AC	24 V DC	3.9 A	7028790
			2.1 A	7028789

Configuration tools

Figure	Type	Part number
	Teach-in stylus	4052939

Device protection

Figure	Description	Type	Part number
 Presentation similar	20 mm diameter	Test rod	2022600
	24 mm diameter	Test rod	2045592
	30 mm diameter	Test rod	2022602
	Test rod holder	BEF-3WNAAAAL1	2052249

Reflective tapes [1)]

Figure	Description	Dimensions (L x W x H)	Items supplied	Part number
	Robust version	1 m x 3.6 cm x 0.08 cm	2 pieces	2046005
		1.2 m x 3.6 cm x 0.05 cm	2 pieces	2051581
		1.5 m x 4.8 cm x 0.05 cm	2 pieces	2051582

[1)] Additional types on request

Solvents and cleaning agents

Figure	Description	Type	Part number
	Solvent for adhesive, spray bottle, suitable for removing the reflective tape	Solvent for adhesive	5602135
	Plastic cleaner and care product, anti-static	Plastic cleaner	5600006

Other

Figure	Description	Type	Part number
	Cloth for cleaning the front screen	Optical cleaning cloth	4003353

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Australia
Phone +61 3 9497 4100
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil
Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Ceská Republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China
Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland
Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España
Phone +34 93 480 31 00
E-Mail info@sick.es

France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India
Phone +91–22–4033 8333
E-Mail info@sick-india.com

Israel
Phone +972-4-999-0590
E-Mail info@sick-sensors.com

Italia
Phone +39 02 27 43 41
E-Mail info@sick.it

Japan
Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Nederlands
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge
Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl

Republic of Korea
Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Republika Slowenija
Phone +386 (0)1-47 69 990
E-Mail office@sick.si

România
Phone +40 356 171 120
E-Mail office@sick.ro

Russia
Phone +7 495 775 05 34
E-Mail info@sick-automation.ru

Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore
Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige
Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan
Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye
Phone +90 216 587 74 00
E-Mail info@sick.com.tr

United Arab Emirates
Phone +971 4 8865 878
E-Mail info@sick.ae

USA/Canada/México
Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

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