

## /// 18 series



These retro-reflective photoelectric sensors in coated metal housing with glass optics were designed specially for detecting transparent PET and glass bottles, plastic foils as well as flat glass. The patented tracking process extends the cleaning interval many times over; short response times and minimal jitter ensure reliable control of fast processes. The versatile fastening options with integrated thread facilitate mounting and the models with aligned abeam optics make alignment unnecessary. The configuration via IO-Link allows a flexible, simple adjustment of the device.



## Retro-reflective sensors

Polarized and unpolarized retro-reflective photoelectric sensors with autocollimation optics for the detection of foils and transparent media are available. In line with application requirements, 3 different types of adjustment options (270 ° potentiometer, teach button, 11-turn potentiometer) and IO-Link versions can be ordered.

## (P)RK18B / (I)PRK 18

Polarized and unpolarized retro-reflective photoelectric sensors for the reliable detection of highly transparent bottles, foils and glass panes.

## Benefits:

- Reliable detection of containers for single bottles
- Precisely adjustable switching point via 270 ° potentiometer, teach button, 11-turn potentiometer
- Coated with chemical nickel
- Models with high optical accuracy available thanks to calibrated optical system
- Large temperature compensation
- Tracking for contamination compensation
- Front and side mounting systems with M4 thread

Part no.	Part description	Operating range [m] Op. range limit [m]	Light source	Connection	Description
50117357	PRK18B.1/2N-M12	0 ... 6 m 0 ... 7.2 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of bottle container; Switching frequency: 500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, 270 ° potentiometer, autocollimation
50117359	PRK18B.1/4P-M12	0 ... 6 m 0 ... 7.2 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of bottle container; Switching frequency: 500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, 270 ° potentiometer, autocollimation
50117373	RK18B.1/2N-M12	0 ... 6 m 0 ... 7.2 m	LED, red	Connector, M12, 4-pin, metal	Application: operation with glass triple reflectors and any reflective tapes; Switching frequency: 500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, 270 ° potentiometer, autocollimation
50117375	RK18B.1/4P-M12	0 ... 6 m 0 ... 7.2 m	LED, red	Connector, M12, 4-pin, metal	Application: operation with glass triple reflectors and any reflective tapes; Switching frequency: 500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, 270 ° potentiometer, autocollimation
50117356	PRK18B.1/2N-6000	0 ... 6 m 0 ... 7.2 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of bottle container; Switching frequency: 500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, 270 ° potentiometer, autocollimation
50117358	PRK18B.1/4P-6000	0 ... 6 m 0 ... 7.2 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of bottle container; Switching frequency: 500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, 270 ° potentiometer, autocollimation
50117372	RK18B.1/2N-6000	0 ... 6 m 0 ... 7.2 m	LED, red	Cable, 6,000 mm, 4-wire	Application: operation with glass triple reflectors and any reflective tapes; Switching frequency: 500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, 270 ° potentiometer, autocollimation
50117374	RK18B.1/4P-6000	0 ... 6 m 0 ... 7.2 m	LED, red	Cable, 6,000 mm, 4-wire	Application: operation with glass triple reflectors and any reflective tapes; Switching frequency: 500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, 270 ° potentiometer, autocollimation
50117363	PRK18B.T2/4P-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, multiturn potentiometer, autocollimation
50117365	PRK18B.T2/4X-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching, DC, multiturn potentiometer, autocollimation
50117364	PRK18B.T2/NX-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, dark switching, DC, multiturn potentiometer, autocollimation
50117361	PRK18B.T2/PX-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, dark switching, DC, multiturn potentiometer, autocollimation

Detailed information on operating ranges in combination with reflectors can be found in the respective data sheet (online)

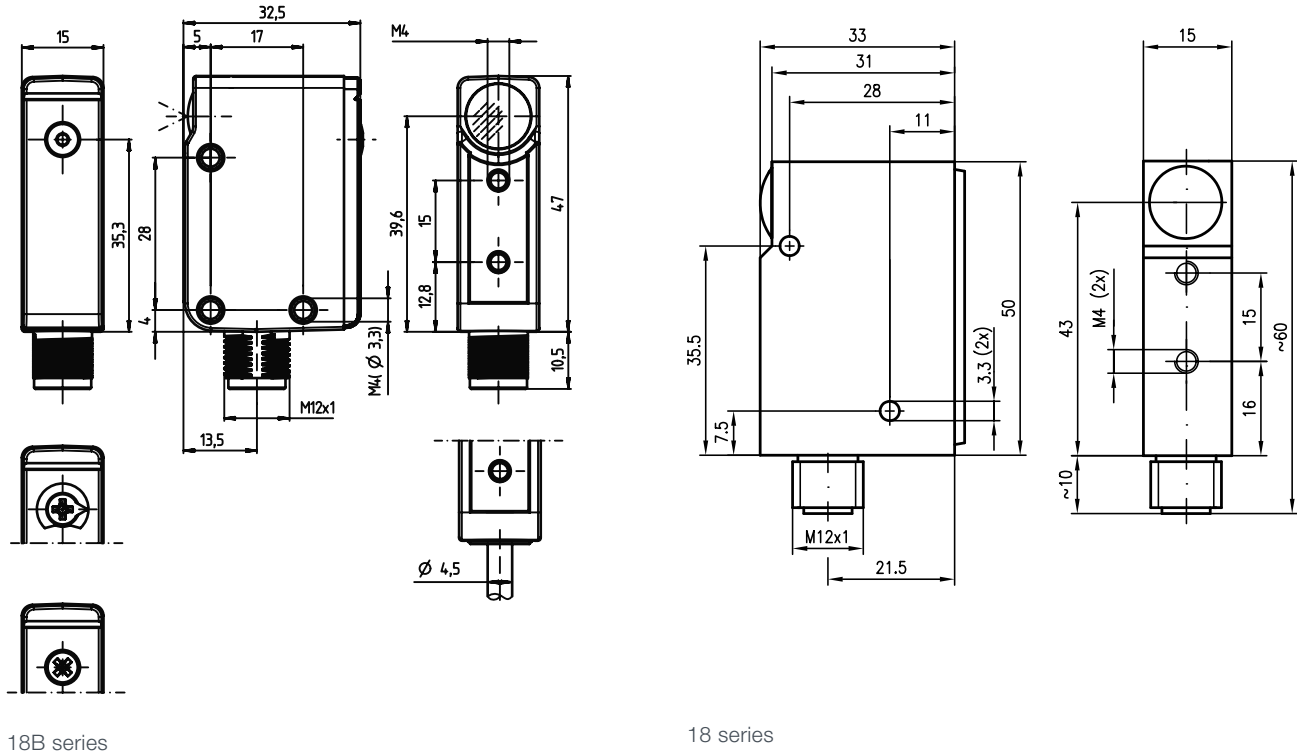
Part no.	Part description	Operating range [m] Op. range limit [m]	Light source	Connection	Description
50117366	PRK18B.T3/2N-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, teach button, autocollimation
50117367	PRK18B.T3/4P-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation
50124945	PRK18B.XT2/4P-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, multiturn potentiometer, autocollimation
50124944	PRK18B.XT3/4P-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation
50117377	RK18B.T2/2N-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent foils and glass panes, operation with glass triple reflectors and any reflective tapes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, multiturn potentiometer, autocollimation
50117379	RK18B.T2/4P-M12	0 ... 4 m 0 ... 4.8 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent foils and glass panes, operation with glass triple reflectors and any reflective tapes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, multiturn potentiometer, autocollimation
50117360	PRK18B.T2/2N-6000	0 ... 4 m 0 ... 4.8 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, multiturn potentiometer, autocollimation
50117362	PRK18B.T2/4P-6000	0 ... 4 m 0 ... 4.8 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, multiturn potentiometer, autocollimation
50033552	IPRK 18/4 DL.41	0 ... 3 m 0 ... 4 m	LED, red	Connector, M12, 5-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz; Digital switching output 1: transistor, PNP, dark switching; Digital switching output 2: transistor, PNP, U <sub>b</sub> switching, DC, step switch, autocollimation, tracking function, warning output
50033554	PRK 18/24 DL.42	0 ... 3 m 0 ... 4 m	LED, red	Connector, M12, 5-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz; Digital switching output 1: transistor, PNP, dark switching; Digital switching output 2: transistor, NPN, light switching, DC, step switch, autocollimation, teach input, tracking function
50032798	PRK 18/24 DL.46	0 ... 3 m 0 ... 4 m	LED, red	Connector, M12, 5-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz; Digital switching output 1: transistor, PNP, dark switching; Digital switching output 2: transistor, NPN, light switching, DC, step switch, autocollimation, tracking function
50117369	PRK18B.FXT3/2N-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 5,000 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, teach button, autocollimation
50117371	PRK18B.FXT3/4P-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 5,000 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation
50121228	PRK18B.TT3/2N-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, teach button, autocollimation, tracking function
50121229	PRK18B.TT3/4P-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation, tracking function
50121230	PRK18B.TT3/LP-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, push-pull, IO-Link / light switching (PNP)/dark switching (NPN); Digital switching output 2: transistor, PNP, dark switching, DC, IO-Link, teach button, autocollimation, tracking function
50126940	PRK18B.TT3/P4-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, dark switching; Digital switching output 2: transistor, PNP, light switching, DC, teach button, tracking function, autocollimation
50124943	PRK18B.XTT3/4P-M12	0 ... 3 m 0 ... 3.6 m	LED, red	Connector, M12, 4-pin, metal	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation, tracking function
50115193	PRK 18/44 L.43	0 ... 3 m 0 ... 4 m	LED, red	Connector, M12, 4-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, step switch, autocollimation, teach input, tracking function
50117368	PRK18B.FXT3/2N-6000	0 ... 3 m 0 ... 3.6 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 5,000 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, teach button, autocollimation
50121231	PRK18B.FXT3/2T-6000	0 ... 3 m 0 ... 3.6 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 5,000 Hz; Digital switching output 1: transistor, NPN, light switching, DC, teach button, autocollimation
50121232	PRK18B.FXT3/4P-6000	0 ... 3 m 0 ... 3.6 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 5,000 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation
50121227	PRK18B.TT3/2N-6000	0 ... 3 m 0 ... 3.6 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, NPN, light switching; Digital switching output 2: transistor, NPN, dark switching, DC, teach button, autocollimation, tracking function
50117370	PRK18B.TT3/4P-6000	0 ... 3 m 0 ... 3.6 m	LED, red	Cable, 6,000 mm, 4-wire	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,500 Hz; Digital switching output 1: transistor, PNP, light switching; Digital switching output 2: transistor, PNP, dark switching, DC, teach button, autocollimation, tracking function
50040278	IPRK 18/A L.46	0 ... 2.4 m 0 ... 3 m	LED, red	Connector, M12, 5-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz, step switch, autocollimation, tracking function, warning output, AS-Interface IO

Detailed information on operating ranges in combination with reflectors can be found in the respective data sheet (online)

Part no.	Part description	Operating range [m] Op. range limit [m]	Light source	Connection	Description
50034119	IPRK 18/A.1 L.4	0 ... 2.4 m 0 ... 3 m	LED, red	Connector, M12, 4-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 500 Hz, multiturn potentiometer, autocollimation, warning output, AS-Interface IO
50030077	IPRK 18/A.L.4	0 ... 2.4 m 0 ... 3 m	LED, red	Connector, M12, 4-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 500 Hz, multiturn potentiometer, autocollimation, warning output, AS-Interface IO
50106974	IPRK 18/V.L.03	0 ... 1 m 0 ... 1.2 m	LED, red	Connector, M12, 5-pin, stainless steel	Application: detection of highly transparent bottles, detection of highly transparent foils and glass panes; Switching frequency: 1,000 Hz; Digital switching output 1: transistor, PNP, light switching, DC, autocollimation, teach input, warning output

Detailed information on operating ranges in combination with reflectors can be found in the respective data sheet (online)

### Dimensioned drawings: 18 series



18B series

18 series

## ACCESSORIES: 18 SERIES

### Connection technology

Connection cables

Part no.	Part description	Connection 1	No. of pins	Cable length	Sheathing material
50130694	KD U-M12-4W-P1-050	Connector, M12, angled, female	4-pin	5,000 mm	PUR
50130690	KD U-M12-4W-V1-050	Connector, M12, angled, female	4-pin	5,000 mm	PVC
50104762	K-D M12W-5P-5m-PUR	Connector, M12, angled, female	5-pin	5,000 mm	PUR
50104556	K-D M12W-5P-2m-PVC	Connector, M12, angled, female	5-pin	2,000 mm	PVC
50104558	K-D M12W-5P-5m-PVC	Connector, M12, angled, female	5-pin	5,000 mm	PVC
50130657	KD U-M12-4A-P1-050	Connector, M12, axial, female	4-pin	5,000 mm	PUR
50130648	KD U-M12-4A-V1-020	Connector, M12, axial, female	4-pin	2,000 mm	PVC
50130652	KD U-M12-4A-V1-050	Connector, M12, axial, female	4-pin	5,000 mm	PVC
50104569	K-D M12A-5P-5m-PUR	Connector, M12, axial, female	5-pin	5,000 mm	PUR
50104555	K-D M12A-5P-2m-PVC	Connector, M12, axial, female	5-pin	2,000 mm	PVC
50104557	K-D M12A-5P-5m-PVC	Connector, M12, axial, female	5-pin	5,000 mm	PVC

Further connection cables can be found on our website

Switching sensors

Measuring sensors

Products for safety at work

Identification

Data transmission / Control components

Industrial image processing

Accessories

## Mounting systems

### Mounting brackets

Part no.	Part description	Design	Fastening at device	Fastening at system	Material
50020833	BT 95	Angle, L-shape	Screw type	Through-hole mounting	Metal

Further mounting brackets can be found on our website

### Rod mounts

Part no.	Part description	Design	Fastening at device	Fastening at system	Material
50117256	BTU 200M-D10	Mounting system, clampable, adjustable, turning, 360 °	Screw type	For 10 mm rod, sheet-metal mounting	Metal
50117255	BTU 200M-D12	Mounting system, clampable, adjustable, turning, 360 °	Screw type	For 12 mm rod, sheet-metal mounting	Metal
50117254	BTU 200M-D14	Mounting system, clampable, adjustable, turning, 360 °	Screw type	For 14 mm rod, sheet-metal mounting	Metal

Further rod mounts can be found on our website

## Reflectors and reflective tapes

### Standard reflectors

Part no.	Part description	Design	Reflective surface	Fastening	Material
50009374	TG 29	Round	25 mm	M3 threaded pin	Glass
50081283	TKS 20X40	Rectangular	16 mm × 38 mm	Through-hole mounting, adhesive	Plastic
50023525	TKS 30X50	Rectangular	27 mm × 44 mm	Through-hole mounting, adhesive	Plastic
50040820	TKS 40X60	Rectangular	37 mm × 56 mm	Through-hole mounting, adhesive	Plastic
50022816	TKS 100X100	Rectangular	96 mm × 96 mm	Through-hole mounting, adhesive	Plastic

Dimensional tolerances for all specified dimensions: ± 0.2 mm

Further standard reflectors can be found on our website

### Micro-triad-type reflectors

Part no.	Part description	Design	Reflective surface	Fastening	Material
50117583	MTKS 50x50.1	Rectangular	50 mm × 50 mm	Through-hole mounting, adhesive	Plastic

Dimensional tolerances for all specified dimensions: ± 0.2 mm

Further micro-triad-type reflectors can be found on our website

### Reflective tapes for standard applications

Part no.	Part description	Design	Reflective surface	Fastening	Material
50106119	REF 4-A-100x100	Rectangular	100 mm × 100 mm	Self-adhesive	Plastic

Further reflective tapes can be found on our website

### Reflective tapes for laser and clear-glass applications

Part no.	Part description	Design	Reflective surface	Fastening	Material
50110192	REF 6-A-50x50	Rectangular	50 mm × 50 mm	Self-adhesive	Plastic

Further reflective tapes can be found on our website

## SMARTER PRODUCT USABILITY

**It's the accessories that make our range of products complete.**

We place great value on, e. g., flexible mounting solutions and simple integration through variable connection technology, alignment aids and innovative mounting systems. Pre-configured and pre-mounted systems also facilitate fast and simple commissioning of, e. g., muting systems for applications in safety at work.

