

CPSET-M20


COMPACT*plus*
– access guarding with muting




About these connecting and operating instructions

These connecting and operating instructions include information on the proper use of CPSET-M20 in accordance with its intended application.

All the information contained herein, in particular the safety notes, must be carefully observed.

Safety and warning information is shown with this symbol .

Important information is identified with this symbol .

These connecting and operating instructions must be stored carefully. They must be available for the entire operating time of the CPSET-M20.

Leuze electronic GmbH + Co. KG does not accept any liability for damage caused by improper use of its equipment. Knowledge of these instructions is an element of the status required for proper use.

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Leuze electronic GmbH + Co. KG
Liebigstrasse 4
82256 Fuerstenfeldbruck / Germany
Phone +49 8141 5350-0
Telefax +49 8141 5350-190
info@leuze.de
www.leuze.com

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1 General

The COMPACT*plus* in the CPSET-M20 is an active opto-electronic protective device (AOPD), type 4 in acc. with EN IEC 61496-1, prEN IEC 61496-2 and SIL 3 in acc. with IEC 61508. The CPRT-m muting transceiver used here performs a muting function that enables the protective function of the muting transceiver to be temporarily suppressed so that material can be transported through the protective field, for example. You will find details on the CPRT-m muting transceiver in the accompanying COMPACT*plus*-m connecting and operating instructions.

You will also find detailed information on the CPSET-M20 start-up and testing in the COMPACT*plus*-m connecting and operating instructions, in chapters 9 and 10.

1.1 Certifications

Company



Leuze electronic GmbH & Co. KG in 82256 Fuerstenfeldbruck / Germany, has a certified quality management system that complies with ISO 9001.

Products



The CPSET centerpiece, the CPRT-m muting transceiver is developed and manufactured in compliance with applicable European directives and standards.

EC prototype test in acc. with
EN IEC 61496-1, prEN IEC 61496-2,
performed by:
TÜV PRODUCT SERVICE GmbH, IQSE
Ridlerstrasse 65
80339 Munich
Germany

1.2 Symbols and terms

Symbols used:




	Warning sign. This symbol indicates possible dangers. Please pay especially close attention to these instructions!
	This symbol, which also refers to a course of action, provides information about special particulars or describes set-up procedures.
	Sign indicating important information.

Table 1.1-1 Symbols

Terms used:

Start/restart interlock	Prevents automatic start after the supply voltage has been turned on and after the protective field has been penetrated.
AOPD	Active opto-electronic protective device
AOPD response time	Time between penetration/entry into the active protective field of the AOPD and when the OSSDs actually switch off.
Display and acknowledgement device	Device with muting indicator, start button and connections for muting sensors and muting transceiver.
CPRT-m	COMPACTplus transceiver with muting function.
CPM500/2V	Passive deflecting mirror for muting transceiver.
MS	Muting sensor, e.g. light beam devices, induction loops or switches.
Muting	Proper, application-intended, time-limited suppression of the protective field's safety function.
Muting restart	Muting restart is required for overriding the protective device after a fault has occurred (muting indicator flashes).
OSSD1 OSSD2	Safety switching output O utput S ignal S witching D evice
Parallel muting	Muting is started when two defined signal inputs are activated simultaneously within a defined time.
Reflective light barrier	Transmitter and receiver are combined in one housing and point in the same direction to record the light of the transmitter returning from a reflector with the receiver.
RES	Start/ RES tart interlock.
SafetyLab	Diagnostics and Parametering software for COMPACTplus
FS	Factory setting (value of a parameter with delivery from the factory, which can be changed with switches and/or SafetyLab).

Table 1.1-2 Terms

2 Safety notes

2.1 Dangers if the safety notes are not observed



CPSET-M20 is developed and manufactured with stringent application of recognized technical regulations. The protective function can, however, be impaired if CPSET-M20 is used improperly or is not used according to its specified application. Such instances can jeopardize the health and lives of the people operating the machinery/systems and may cause damage to property.

2.2 Operating conditions and proper use



The applicable requirements for machine safety apply when using CPSET-M20. The responsible local authorities (e.g. health and safety at work authorities) are available to answer questions concerning safety. The following requirements for use must be complied with:

- Machine Directive 98/37/EC,
- Machine Utilization Directive 89/655/EEC

and the corresponding applicable national regulations in the individual member states. It is the responsibility of the manufacturer and the operator of the machine or equipment on which the optical safety device is installed to comply with these rules and regulations. The responsible local authorities (e.g. health and safety at work authorities) are available to answer questions concerning safety. The following requirements for use must be complied with:

The installation, electrical connection, parametering and required test before start-up and regular tests must only be carried out by specialist personnel and the results must be transparently documented. Knowledge of the safety notes in these connecting and operating instructions is a constituent part of this competence.

The operating instructions as well as the Connecting and Operating Instructions *COMPACTplus-m* that is part of delivery must be included with the documentation of the machine on which CPSET-M20 is installed so that they are available for the operator at all times. The owner/provider of the machinery must ensure that the operator is instructed by an experienced specialist. This also applies for the accompanying *COMPACTplus-m* connecting and operating instructions.

2.3 Additional safety notes for the muting function

Muting is the suppression of an AOPD's safety function in accordance with the intended application. Using additional sensor and control signals, it enables the protective field effect to be suppressed for a limited time, e.g. with material transport in or out of the danger zone.



The AOPD's protective function is not effective while muting is active! Another method must therefore be provided to ensure that access to the danger point is not possible during the muting process, e.g. because the material transport prevents access to the danger point. Muting sensors must be arranged and set so that any manipulation with simple means is excluded. The same is valid for control signals, that must be generated in such a way that they are independent of muting sensor signals and thus do not enable easy manipulation.

Before unlocking the start/restart interlock or the muting restart, the operator must be absolutely sure that nobody is inside the danger zone.

Muting may only be temporarily activated, and only while the access to the danger zone is blocked by the transport material. If the distance between the transceiver and passive deflecting mirror is that much wider than the transport material that a person can get by during the muting beside the transport material into the danger zone, then measures must be implemented that will detect the person's entry and stop the dangerous movement. Safety mats or swing doors monitored with safety switches have been tried, tested and proven here. Such measures prevent injuries caused, for example, by crushing in the access area.

Muting must be automatic, it may not, however, be dependent on one single sensor signal, nor may it be fully dependent on software signals.

The muting function must be released immediately after the transport material has passed through, so that anybody passing through behind the transport material will be detected by the safety device. To ensure this, the simultaneousness of the muting signals must be adapted to the application.

The operating staff must be explicitly instructed that the optical protective device does not provide any protection in the bridged-over state, so that there is an immediate danger for people with any manipulation or inadmissible penetration into the system.

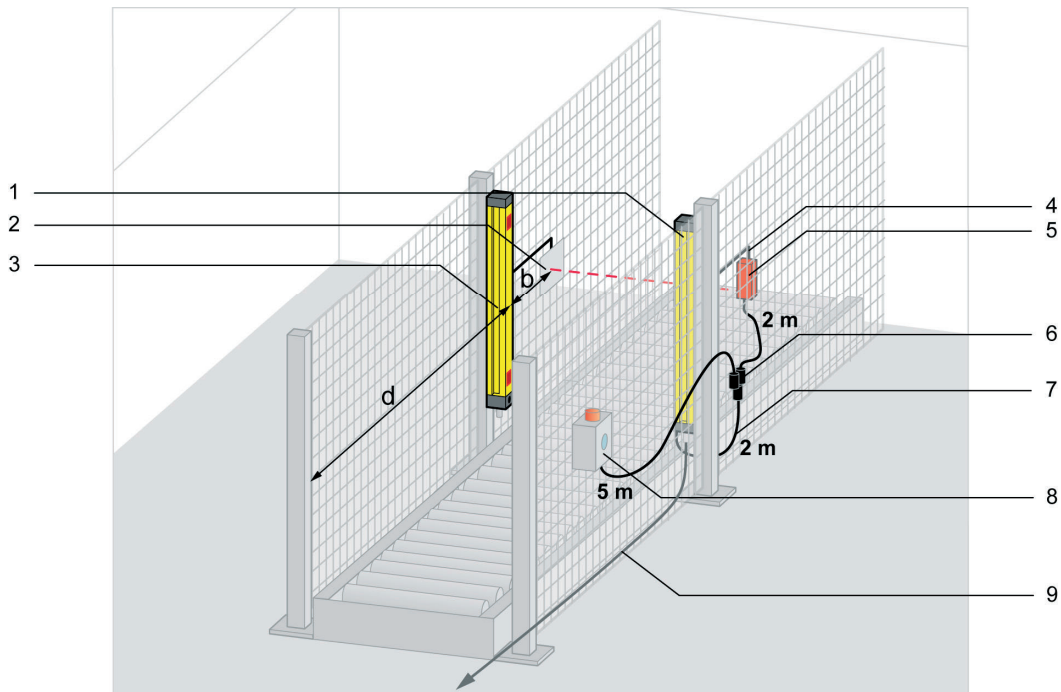
The display and acknowledgement device must be mounted close to the muting zone where it can be easily seen.

3 System setup and application

CPSET-M20 consists of an active opto-electronic protective device (AOPD) with a CPRT-m muting transceiver and a CPM Passive Deflecting Mirror. The muting function for temporarily suppressing the protective field function is activated by a reflective light barrier included with delivery and another signal, usually from a PLC.



CPSET-M20 is designed for outlet applications where the transport good to be muted comes out of the danger zone and interrupts the muting sensor before interrupting the protective field. Do not use it for inlet applications where it is possible, that persons pass into the danger zone when the PLC signal is activated.



- | | |
|---|---|
| 1 = CPRT500/2-m04/T4 muting transceiver | 6 = CB-M12-SC24 splitter cable |
| 2 = Reflector and bracket, part from MMS-AP-N60 | 7 = CB-M12-CC15 to local connection socket, connects with CB-M12-SC24 |
| 3 = CPM500/2V Passive Deflecting Mirror | 8 = AC-ABF-SL1 display and acknowledgement device |
| 4 = Sensor bracket from MMS-AP-N60 | 9 = CB-M12-15000S-8GF to the control cabinet |
| 5 = PRK46B reflective light barrier | d = $V_{max} \times T - b$ with $T = \text{simultaneity L1 \& M5 (FS: 4s)}$ |

Fig. 3.1-1 CPSET-M20 opto-electronic safety device setup

The system's components are optimally arranged with one another and parametered so that the system can be easily mounted and put into operation without any further settings, as long as the parameter set of the CPRT-m (chapter 8) fits to the measures of the application. Otherwise the parameters must be adapted accordingly using SafetyLab.

All cables and accessory components required for the electrical connection are included with delivery.



The arrangement shown in Fig. 3.1-1 must not be used in this form, if the access beside the conveyor can be accessed. In that case there must be used for example safety mats or horizontal safety light curtains to protect this danger zone.

System components

CPSET-M20 consists of the following components:

- CPRT500/2-m04/T4 muting transceiver with specific parametering
- CPM500/2V Passive Deflecting Mirror
- AC-ABF-SL1 display and acknowledgement device with LED muting indicator, start/restart button and mounting plate for mounting on the safety fence
- PRK46B reflective light barrier with reflector incl. fixing system for slot mounting
- 1 + 2 / 5 m splitter cable for connecting reflective light barrier and display and acknowledgement device to the M12 / 8-pin local connection socket of the muting transceiver
- 15 m cable with M12 connection socket, 8-pin between the CPRT-m transceiver and the machine control unit

4 Function

4.1 Basic function

The CPRT-m muting transceiver sets up a protective field with the Passive Deflecting Mirror. An access through the protective field activates a switching command, which is evaluated by the machine control unit and stops the system. The muting function of the CPRT-m evaluates the signals from reflective light barrier and a control unit and suppresses the activation of the switch-off command, during a material transport through the protective field, for example.

CPSET-M20 is designed for outlet applications, where the transport object to be muted comes out of the danger zone. You will find detailed information on the CPRT-m muting transceiver in the accompanying COMPACT*plus*-m connecting and operating instructions.

4.2 Restart interlock

The start/restart interlock function prevents the safety circuit from being released automatically when the machine is turned on or the supply voltage is restored after a power failure. The muting transceiver only switches to the ON state by pressing and releasing the start/restart button in the display and acknowledgement device within a time window of 0.1 to 4 seconds when the protective field is free.

With access through the protective field, the start/restart interlock function ensures that the transceiver will remain in the OFF state after the protective field is released again. The transceiver only switches to the ON state by pressing and releasing the start/restart button within the abovementioned time window.



In the case of access guarding applications, the start/restart interlock is obligatory because only the access to the danger zone is monitored – the area between the protective field and the points of operation is not monitored. Before unlocking the start/restart interlock, the operator must be absolutely certain that nobody is inside the danger zone.

4.3 Contactor monitoring

The EDM contactor monitoring function is disabled in the factory setting to enable integration into a higher level safety circuit with downstream safety relays or safety control units, which generally perform the contactor monitoring. This can be activated via SafetyLab; the feedback circuit is then expected on Pin 1 (M2) of the 7-pin connecting cable.

4.4 Muting

Muting is the properly intended, regulated and time-limited suppression of the protective field safety function. During the muting process the OSSDs remain in the ON state with interruption of the protective field. Special precautions must therefore be taken to ensure the required safety. See special safety notes in chapter 2.3.

The muting operation is started by the muting signals. Factory-set is: “2-sensor parallel muting (L1, M5)”

Muting is only activated on the CPSET-M20 when a 24 V control signal is first received at the M5 input and within 4 sec the dark-switching signal of the reflective light barrier is activated simultaneously at input L1 by the muting object (e.g. the loaded palette) → the LED muting indicator on the display and acknowledgement device is switched on.



The control signal at M5 must not be linked logically in any way with the muting sensor at L1.

If the 4-second simultaneity window is exceeded, muting is not activated → the LED muting indicator stays off. The control signal at M5 which the operator cannot see, makes it difficult to manipulate the muting.

Muting stays active for max. 4 seconds, as long as at least one muting signal is active. If the muting object leaves the beam of the reflective light barrier, 4 seconds remain for it to also leave the muting transceiver's protective field, as long as the control signal stays active on M5.



During this time it must be prevented that persons can get into the danger zone from outside through the still muted protective field. This can be done for example by a protective fence that is long enough as shown in Fig. 3.1-1.

Another possibility is the reduction of the simultaneity down to a value smaller than 4 s. In this case it must be ensured that the activation of the PLC signal at M5 and the following interruption of the muting light barrier takes place within this time frame.

If simultaneity can not be reduced due to operational reasons, another possibility to ensure safety is the activation of the function “Premature end of muting after the protective field becomes free...” by SafetyLab. Muting ends then also when the protective field gets free the first time during muting.

4.5 Muting time limit

The safety-relevant muting time limit in CPSET-M20 is set to 30 seconds. After this time muting is terminated; a muting restart to free-up the muting line may be necessary.



If this time should be too short, the value can be increased by SafetyLab. Alternatively it is possible to define by SafetyLab a control signal for the muting timer, that holds the muting timer when the conveyor stops. Details can be found in the “SafetyLab” user manual.

4.6 Muting restart

An applicable muting sequence can be interrupted according to the operating conditions, e.g. with failure of the supply voltage while a permissible object is just passing the muting line. When the supply voltage returns, the muting process does not continue automatically, because the expected switch-on sequence is not supplied by the already activated muting signals. The muting indicator blinks to show this state. In order to prevent a manual removal of the object from the muting line, CPSET-M20 provides an integrated override mode via the start/restart button. The OSSDs are switched on here, provided at least one muting signal is activated, and within 4 seconds (FS),

- start/restart button is pressed,
- released again and
- pressed again.



On the second pressing of the start/restart button the safety circuit is **released immediately** (override function)! The blue LED of the transceiver lights up during the muting restart process to show that its protective function has been bridged.



The operator must also be absolutely certain before activating the muting restart that nobody is inside the danger zone.

With the second releasing of the start/restart button, the transceiver checks the muting signals for a valid assignment. If a valid muting combination is determined, the OSSDs remain in the ON state; the system returns to its normal operation. If, on the other hand, an invalid muting combination is determined, the release is maintained only for as long as the button is pressed. If it is released, the system stops again. This happens both, with a dealigned, dirty or damaged muting sensor and when the transport good has already left the muting reflective light barrier but is still in the protective field. The control signal at M5 must always be active during muting restart to enable it also with a free or defective reflective light barrier.

Here too the override in tip mode is therefore possible with the condition that a responsible person observes the procedure, and can interrupt the dangerous movement at any time by releasing the start/restart button. The error must be checked by a qualified specialist.

The override is limited to 60 sec. Thereafter the above mentioned sequence must be pressed on the start/restart button again for the process to continue.



It must be ensured that the entire danger zone is fully visible from the installation point of the start/restart button.

5 Display and control elements

5.1 Muting transceiver

You will find an exact description of the displays on the CPRT-m muting transceiver in the accompanying COMPACT*plus*-m connection and operating instructions manual.

5.2 Display and acknowledgement device

The CPSET-M20 scope of delivery includes the display and acknowledgement device with mounting plate AC-ABF-SL1. The splitter cable is connected to the display and acknowledgement device with the longer cable (5 m). The 8-pin angled M12 plug of the adapter cable is connected to the CPRT-m muting transceiver on the M12 connection socket in the cap.



Fig. 5.2-1 AC-ABF-SL1 display and acknowledgement device

Start/restart button

The OSSDs turn on after pressing and releasing the start/restart button with free protective field. The start/restart button also enables a restart when a muting sequence has been interrupted. The system override is consequently also possible after a muting fault.



Before unlocking the start/restart interlock via the start/restart button, the operator must be absolutely certain that nobody is inside the danger zone.

Muting indicator

The muting indicator on the display and acknowledgement device signals to the operator by constant lighting that muting has been correctly initiated and the protective function of the muting transceiver has been bridged. If the muting indicator flashes, there is a muting fault. A muting restart is required.

6 Installation

CPSET-M20 is designed for mounting on the safety fence. It is also possible, however, to mount the components in and on the DC or UDC device columns. Device columns must be ordered separately. The following steps are required:

- Mounting of the safety devices on the safety fence or
- mounting of the safety devices in device columns with the device columns fixed to the floor.
- Electrical connection of the muting transceiver (see chapter 7).
- Alignment of the muting transceiver and the Passive Deflecting Mirror.
- Mounting and alignment of the reflective light barrier and the reflector.
- Mounting of the display and acknowledgement device.

6.1 Mounting on the safety fence

Muting transceiver and Deflecting Mirror are mounted on one of the side slots using the mounting bracket included with delivery, or with separately ordered swivel brackets on the posts of the safety fence.

Tools required:

- 10 mm socket wrench
- Spirit level
- Drill with appropriate drill bits, where applicable

Work steps:

1. Fix the mounting bracket with the locking screws included with delivery to the sliding nuts in the side slot of the device.
2. Fix the devices with screwed on mounting bracket to a post of the safety fence so that:
 - The protective screen of the muting transceiver and the mirror openings of the Deflecting Mirror are opposite one another.
 - The lowest beam is 400 mm above the reference level.
 - Transceiver and Deflecting Mirror are mounted vertical with one another and are on the same vertical level.
3. Set up the electrical connection (see chapter 7) and switch the system on to align the muting transceiver and the Passive Deflecting Mirror.
4. Align the top edge of the muting transceiver and passive deflecting mirror at the same height and so that the lower beam is 400 mm above the respective reference level (conveyor line or floor). The top beam is therefore 900 mm above the reference level. To do this, loosen the locking screws in the sliding nuts and shift the muting transceiver and the passive deflecting mirror until they are at the same height. Tighten the locking screws again.
5. Loosen the screws for fixing the mounting bracket on the post of the safety fence. Tilt the devices until the light beam of the muting transceiver is centered on the Passive Deflecting Mirror. If required use washers to fix this position and tighten the screws again.
6. Check for correct alignment. The optimum alignment has been achieved when the orange LED lights constantly in the muting transceiver (COMPACT*plus*-m connecting and operating instructions).

6.2 Mounting in device columns

UDC-xx00-S1 device columns are available in various lengths as accessories. The devices are protected in these and are easy to align.

Tools required:

- 4 mm Allen wrench
- 6 mm Allen wrench
- 16 mm socket wrench
- 17 mm socket wrench
- Spirit level
- Drill with 10 mm concrete bit

Work steps:

1. Fix the CPSET-M20 muting transceiver and passive deflecting mirror in one device column each. To do this use the clamping components delivered with the column, which are first screwed to the side slots of the devices, so that protruding moving clamping parts point away from the device.
2. After removing the top cover of the device column, insert the devices with the clamping parts from above into one of the internal vertical slots of the column and fix it with the Allen screw accessible from the front. Screw the column cover back on.
3. Determine the fixing center points of the two device columns and mark them on the floor.
4. Mark a connecting line on the floor between the fixing center points of the columns. A marking length of approx. 90 mm from each column center point is sufficient.
5. Set the drilling template on the center point and align it according to the connecting lines. Mark the drill holes.
6. Drill the fixing holes 80 mm deep and insert the floor anchors.

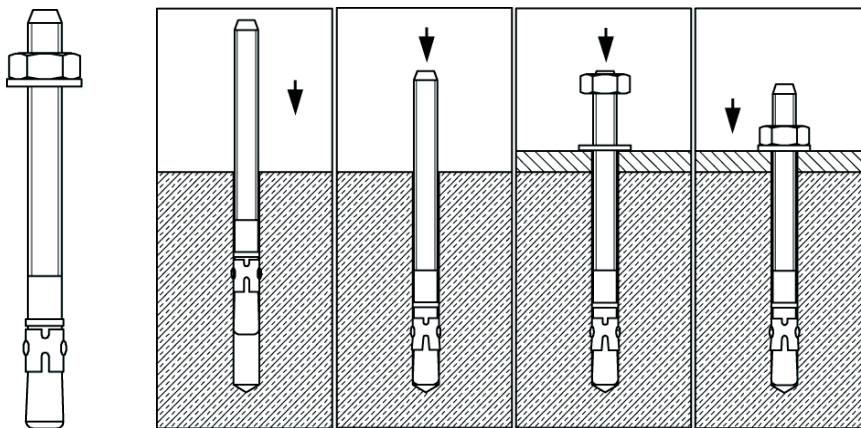


Fig. 6.2-1 Floor anchor fixing holes

7. Set the columns up and screw them tight with the 17 mm socket wrench.
8. Align the floor columns with the alignment screws using the spirit level vertically.
9. Set up the electrical connection (see chapter 7) and switch the system on to align the muting transceiver and the Passive Deflecting Mirror.
10. Align the top edge of the muting transceiver and passive deflecting mirror at the same height and so that the lower beam is 400 mm above the respective reference level (conveyor line or floor). The top beam is therefore 900 mm above the reference level. To do this, loosen the Allen screw of the clamping brackets and shift the muting transceiver and the passive deflecting mirror until they are at the same height. Tighten the Allen screws again.
11. Loosen the Allen screws in the base of the column. Turn the devices until the beam of the muting transceiver is centered on the Passive Deflecting Mirror. Tighten the Allen screws again.
12. Check for correct alignment. The optimum alignment has been achieved when the orange LED lights up in the muting transceiver (see also, COMPACTplus-m connecting and operating instructions).

6.3 Installing the reflective light barrier

Reflective light barrier and reflector can be fixed with the MMS-AP-N60 mounting system included with delivery as follows:

- Directly to the side slot of the devices.
- To the machine or the transport unit beside the devices.
- To the slot on the rear of the device columns.

To prevent any easy manipulation, the mounting height should be selected so that the muting transceiver's protective field beam is interrupted before an accidental interruption of the light beam of the reflective light barrier.

6.3.1 Mounting on the side slot

Fix

- the cast components of the MMS-AP-N60 mounting set included with delivery with two screws and sliding nuts each on a side slot of the devices.
- the angled rod with the shorter part to the two screws on the cast component.
- the reflector on the passive side on the rod.
- the light barrier with the mounting set on the rod on the transceiver side.

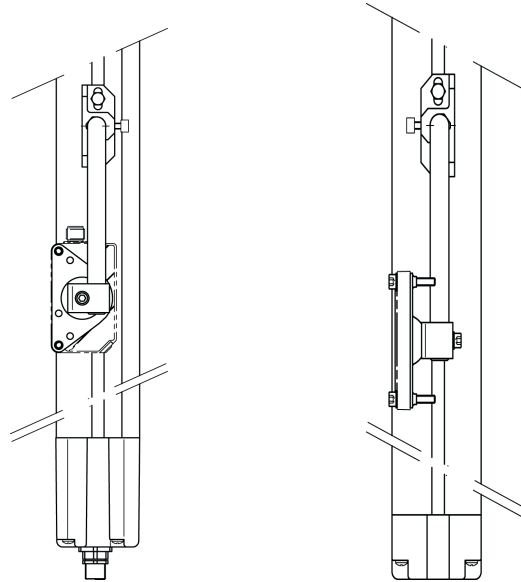


Fig. 6.3-1 Mounting light barrier and reflector with MMS-AP-N60 on a side slot

6.3.2 Mounting on the machine

Fix

- the round rod bracket of the MMS-AP-N60 mounting set included with delivery with two screws each with drill holes on the machine.
- the angled round rod with the two screws on the round rod bracket.
- the reflector on the passive side with CPM500/2V on the round rods.
- the light barrier with the mounting set on the round rod on the transceiver side.

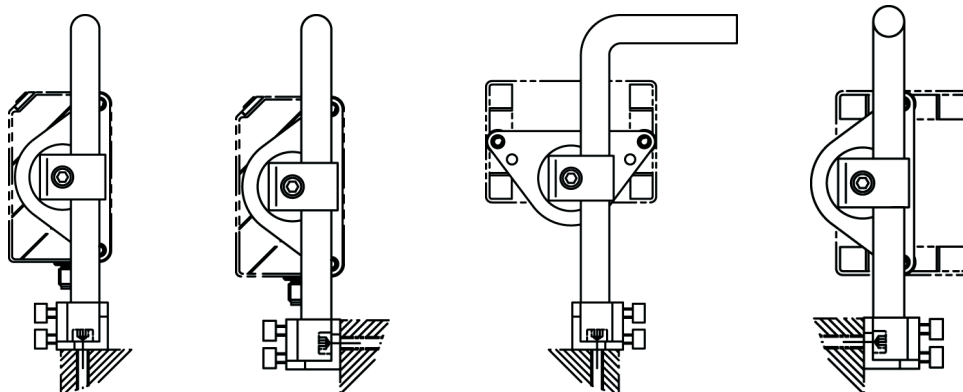


Fig. 6.3-1 Mounting light barrier and reflector with MMS-AP-N60 on the transport unit

6.3.3 Mounting on a device column

display and acknowledgement device Fix

- the round rod brackets of the MMS-AP-N60 mounting set included with delivery with two screws and sliding nuts each on a rear-side slot of the device columns.
- the angled round rod with the longer part to the two screws on the round rod bracket.
- the reflector on the passive side on the round rod.
- the light barrier with the mounting set on the round rod on the transceiver side.

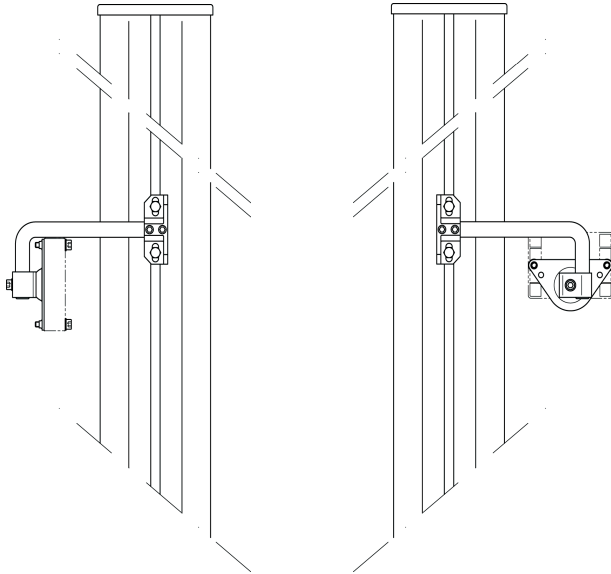


Fig. 6.3-1 Mounting light barrier and reflector with MMS-AP-N60 on the device column

6.4 Mounting the display and acknowledgement device



The display and acknowledgement device must be mounted so that

- the entire danger zone is well visible from the installation point.
- the display and acknowledgement device cannot be reached from the danger zone.
- the muting indicator is well visible from all sides.

To mount the display and acknowledgement device:

- Loosen the 4 screws on the display and acknowledgement device housing and remove the cover.
- Loosen the 4 screws of the mounting plate.
- Mount the display and acknowledgement device on the safety fence. The safety fence is between the mounting plate and the underside of the housing.
- Replace the cover on the underside of the housing and tighten the screws.
- Connect the cable via the M12 plug.

7 Electrical connection

The following requirements must be observed:

- The electrical connection must be performed by experienced personnel. Knowledge of all safety notes contained in these operating instructions is part of this competence.
- Basically both safety-related switching outputs OSSD1 and OSSD2 must be looped into the machine's work circuit.
- Signal outputs may not be used for switching downstream safety circuits.
- It is vital during the electrical installation that the power of the machine or system to be secured is switched off locked, so that the dangerous movement cannot be started up again unintentionally.

The electrical connection of the individual components is made via ready prepared cable with M12 plug connectors. The following connections must be made:

- Connect the display and acknowledgement device with the splitter cable (5 m) via the 4-pin plug connectors.
- Connect reflective light barrier with the splitter cable (2 m) via the 4-pin plug connectors.
- Connect the CPRT-m muting transceiver with the splitter cable via the 8-pin plug connectors.
- Connect the machine interface with the connecting cable included (15 m) to the control cabinet.

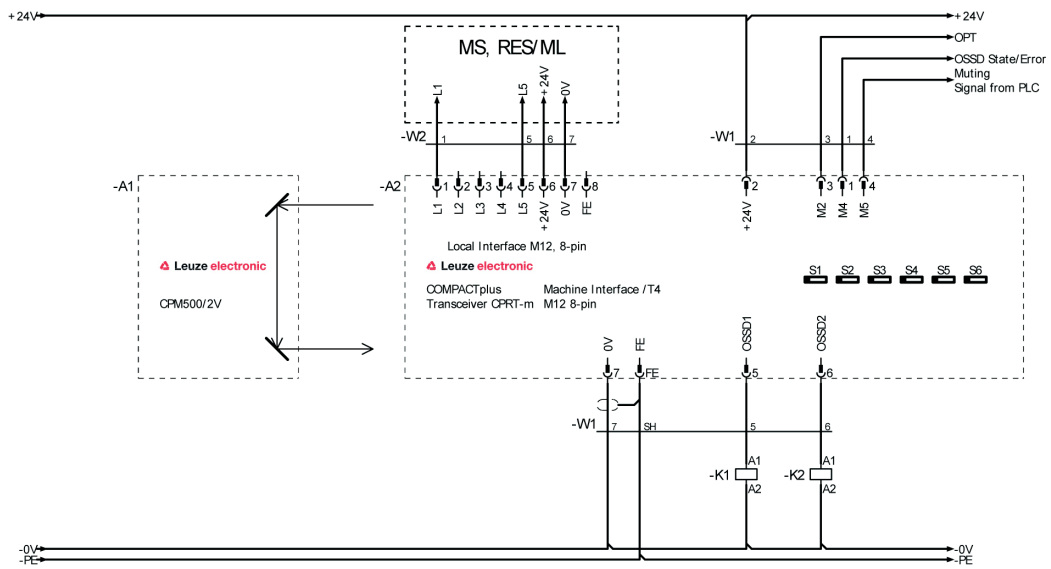


Fig. 7.1-1 Electrical connection CPSET-M20

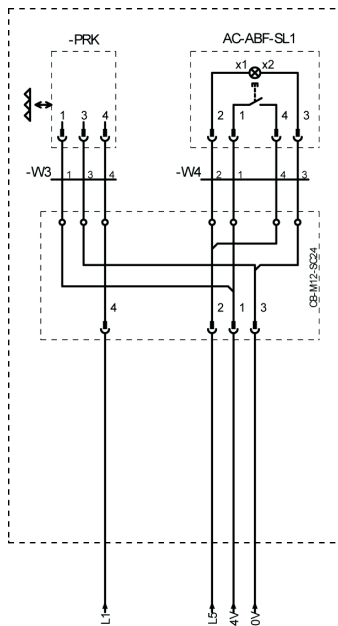


Fig. 7.1-2 Electrical connection MS, RES/ML

The following signals are expected or issued on the interface cables of the local and machine interface with cable colors.:

Local interface:

- L1 input Muting signal from reflective light barrier
- L5 input Reset button against +24VDC
- L5 output Muting indicator against 0V

Machine interface

- | | | |
|--------|-------------------------|-------------------------------|
| Brown | Power supply | +24V |
| Blue | Power supply | 0V |
| Grey | Safety switching output | OSSD1 |
| Pink | Safety switching output | OSSD2 |
| White | M4 output | OSSD state / Error |
| Yellow | M5 input | PLC muting signal |
| Green | M2 input | Optional EDM feedback circuit |

8 Parametering

The CPRT-m muting transceiver is set at the factory with some deviations from the factory settings of the “muting” function package:

- MultiScan factor on H=21; the response time is therefore 49 ms
- Muting indicator without monitoring connected to L5
- Start/restart interlock activated, reset signal expected on L5
- Contactor monitoring (EDM) not activated
- 2-sensor parallel muting (L1, M5)
- L1 filtering time $t(\text{off}) = 500 \text{ ms}$
- Simultaneity of muting sensors activation (PLC signal on M5 and light barrier on L1 within 4 seconds)
- Muting time limit = 30 s
- Muting restart (override) by pressing the reset button on L5 twice
- Signal output M4 (white cable):
 - Static: OSSD output switching state when device is fault-free.
 - Rapid flashing: Error signal output.

9 Scope of delivery

Article no.	Quantity	Article	Description
909979	1	CPSET-M20	
68900074	1	CPRT500/2-m04/T4	Muting transceiver with M20 parametering
909606	1	CPM500/2V	Deflecting Mirror for passive side
426364	1	CPSET-ACS1	Accessory set
426364	1	CPSET-ACS1	
426363	1	AC-ABF-SL1	Display and acknowledgement device with LED muting indicator
430306	1	MMS-AP-N60	Mounting system for 1 PRK incl. reflector
50105987	1	PRK46B/4D.2-S12	Reflective light barrier
50030556	1	BT46.1	Fixing component for 46 series
150757	1	CB-M12-CC15	Connecting cable for splitter cable, 1m
150758	1	CB-M12-SC24	Splitter cable, 2 + 5 m
429085	1	CB-M12-15000S-8GF	Machine interface cable, M12, 7-wire
607054	1		This additional CPSET-M20 connecting and operating instructions
607014	1		COMPACT <i>plus</i> -m connecting and operating instructions, German/English

10 Accessories

Article no.	Article	Description
520073	SLAB-SWC	SafetyLab incl. PC cable
549827	UDC-1000-S1	Device column, 1000 mm
549828	UDC-1300-S1	Device column, 1300 mm
549814	UDC-1600-S1	Device column, 1600 mm
549829	UDC-1900-S1	Device column, 1900 mm
429081	CB-M12-5000S-8GF	Connecting cable, 5 m
429083	CB-M12-10000S-8GF	Connecting cable, 10 m
429085	CB-M12-15000S-8GF	Connecting cable, 15 m
429181	CB-M12-25000S-8GF	Connecting cable, 25 m
548510	CB-M12-10000S-8GF/GM	Extension cable, 10 m