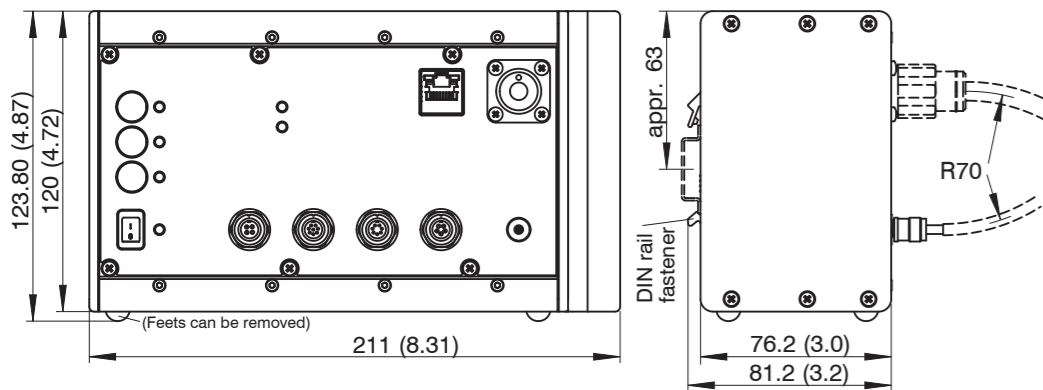


Controller

Place the controller on a level surface or install it for example in a switch cabinet using a DIN EN 60715 mounting rail (DIN rail TS35).

i When attaching the controller, ensure that no connections, operating or display elements are covered. Free space adjacent to the heat sink on the right side of the controller: min. 3 cm.

➡ To remove the controller, push it upwards and pull it forwards.

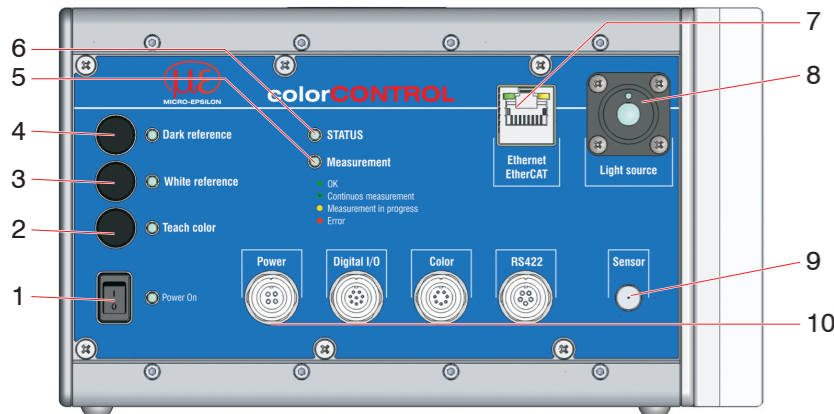


i When connecting the optical fiber connectors, you need to ensure that the end points do not touch any edges or surfaces to avoid damage.

➡ Connect the sensor cable (thick strand, larger connector) to the controller.

➡ Guide the coding keys upwards along the fiber connectors, until they fit into the controller's grooves. Carefully tighten the union nut by hand.

➡ Connect the signal connector to the controller.



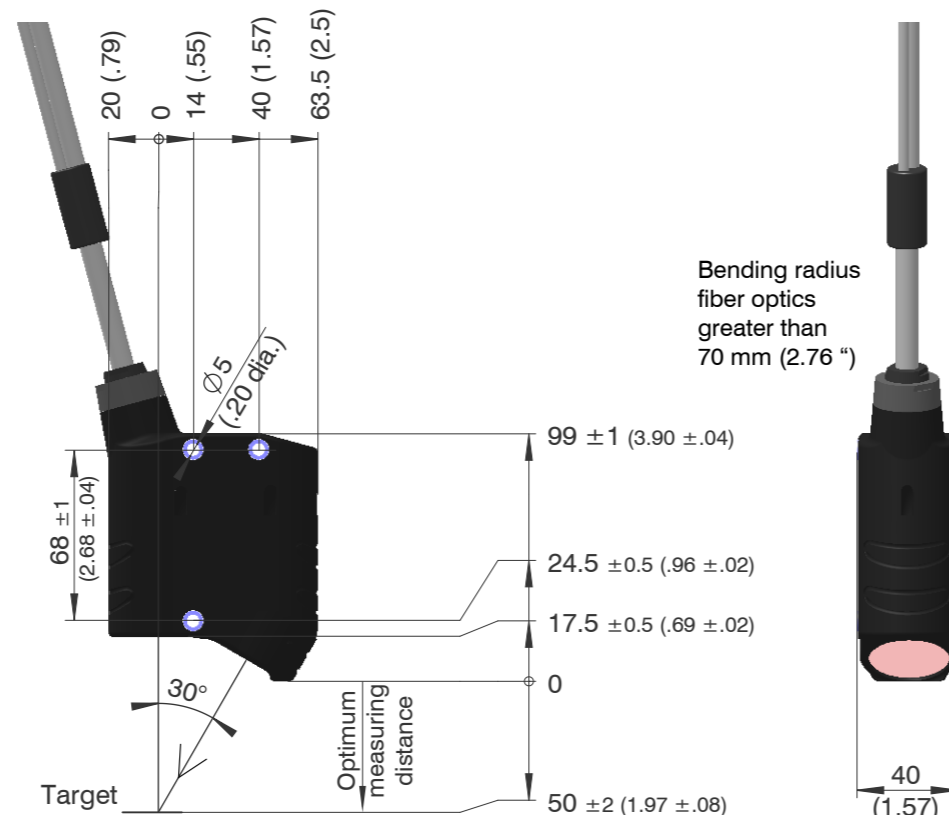
1	On/off switch	7	Ethernet / EtherCAT
2	Pushbutton, LED Teach color	8	Light source
3	Pushbutton, LED White reference	9	Sensor connector
4	Pushbutton, LED Dark reference ¹	10	RS422, color, digital I/O and supply connectors
5	LED Measurement	1) Set to factory setting: Press the pushbuttons Dark reference and Teach color approx. 10 s.	
6	LED Status		

colorCONTROL Angle Sensor ACS1

FCS-X-ACS1-30/0-50-XXXX



➡ Mount the sensor to the three mounting holes. Use three cylinder head screws M4x45.



The receiver optics must be positioned vertically above the measurement object.

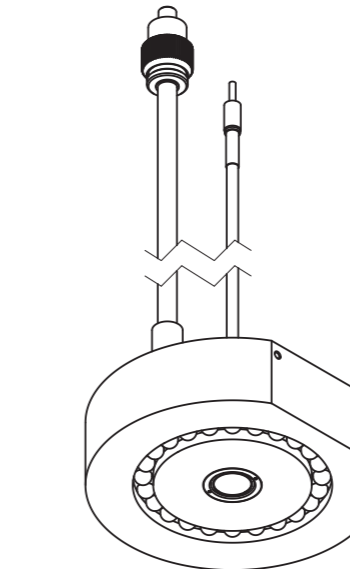
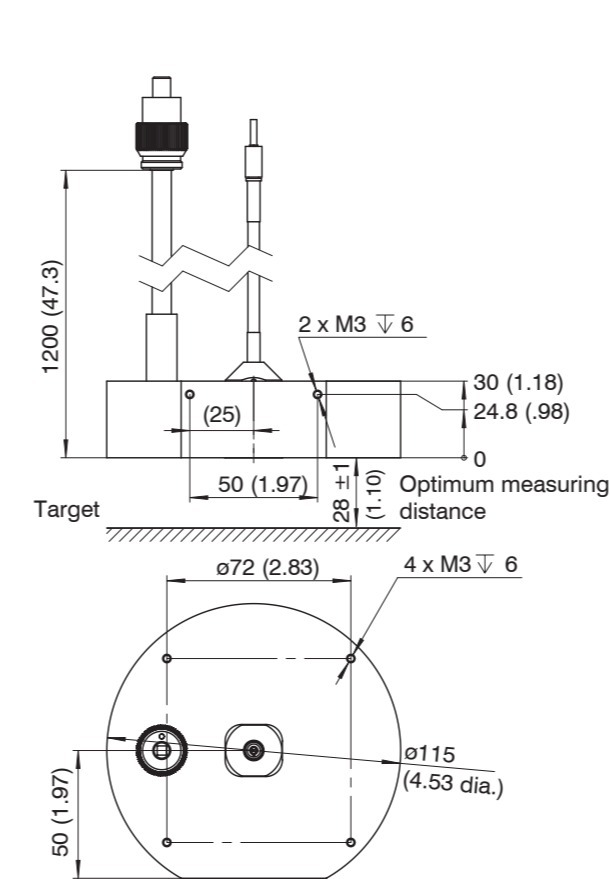
The optimum distance between measurement object and sensor is near the center of the working range. Alternatively, use the web interface (Video/Spectrum program area) to set amplitude to maximum.

colorCONTROL Circular Sensor ACS2

FCS-X-ACS2-R45/0-28-XXXX
FCS-X-ACS2-R45/0--28-XXXX(002)



➡ Attach the sensor either laterally to the two or from above to the four mounting holes. Use cylinder head screws M3x18.



The receiver optics must be positioned vertically above the measurement object.

The optimum distance between measurement object and sensor is near the center of the working range. Alternatively, use the web interface (Video/Spectrum program area) to set amplitude to maximum.



Functions

- Noncontact online color measurement
- Color recognition from a taught reference list
- Triggering, synchronization
- Ethernet/EtherCAT, RS422, digital I/O
- Measurement frequency up to 2000 Hz

Warnings

Connect the power supply in accordance to the safety regulations for electrical equipment. The power supply may not exceed the specified limits.

> Danger of injury, damage to or destruction of the system.

Protect the optical fiber ends from dirt and contamination, protect the cables from damage.

> Failure of the measurement device

Avoid shock and vibration to the controller or the sensor.

> Damage to or destruction of the system

Proper Environment

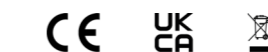
- Protection class:
 - P40 (Controller)
 - IP64 (Sensor)
- Temperature range
 - Operating: 0 ... +45 °C (+32 ... +113 °F)
 - Storage: -20 ... 70 °C (-4 ... +158 °F)

You can find more information about the sensor in the operating instructions. They are available online at: www.micro-epsilon.com/download/manuals/man-colorCONTROL-ACS7000-en.pdf or with the QR code at right:



Assembly Instructions
colorCONTROL ACS7000
Angle sensor ACS1
Circular sensor ACS2
Transmission sensor ACS3
Tactile adapter ACS1-30/0

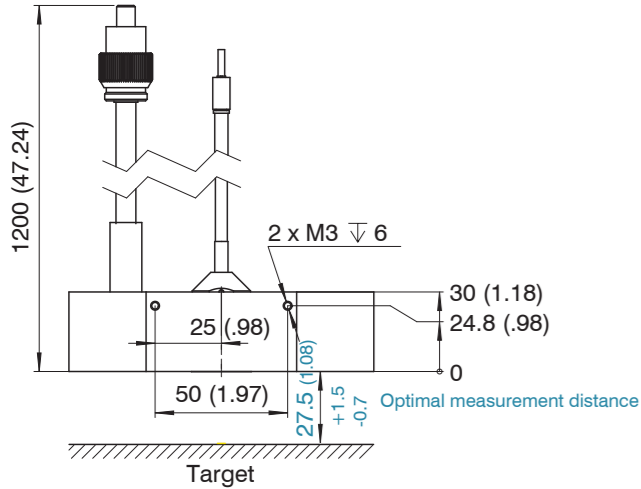
MICRO-EPSILON Eltrotec GmbH
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Your local contact: www.micro-epsilon.com/contact/worldwide/



X9771252.01-A032033HDR

colorCONTROL
Circular Sensor ACS2

FCS-X-ACS2-R45/0-28-1200(001)

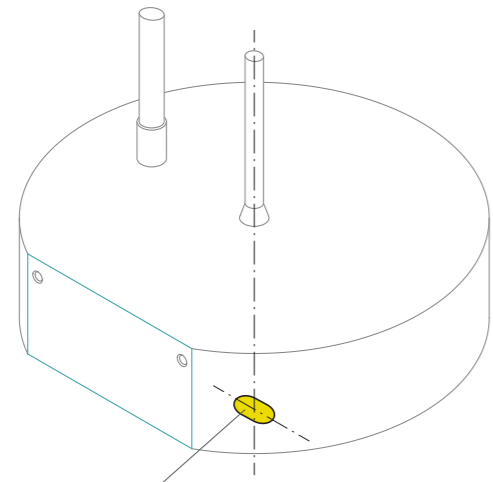
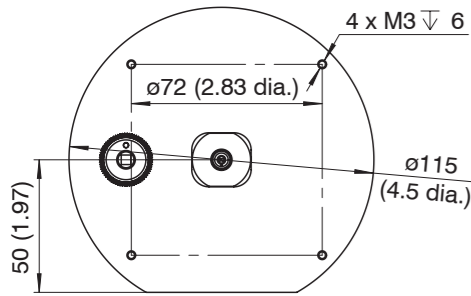


➔ Attach the sensor either laterally to the two or from above to the four mounting holes. Use cylinder head screws M3x18.

The receiver optics must be positioned vertically above the measurement object.

The optimum distance between measurement object and sensor is near the center of the working range. Alternatively, use the web interface (Video/Spectrum program area) to set amplitude to maximum.

The orientation of the measurement spot is parallel to the flattening at the sensor, see drawing.

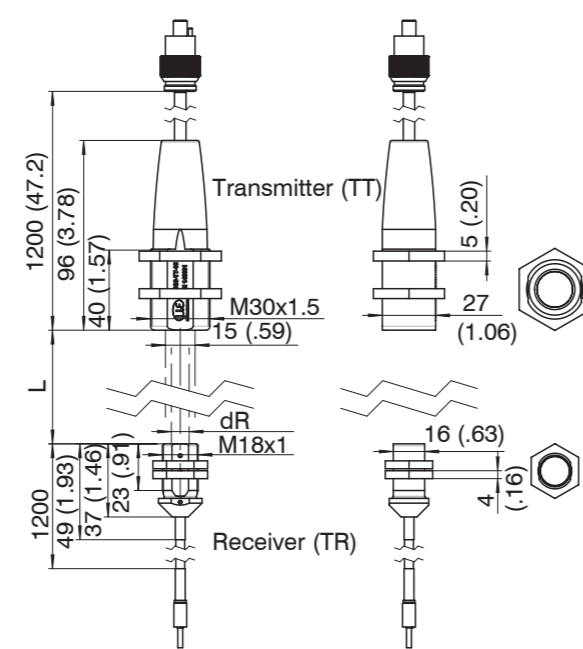


Spot 3 x 2 mm, parallel to the radial mounting surface

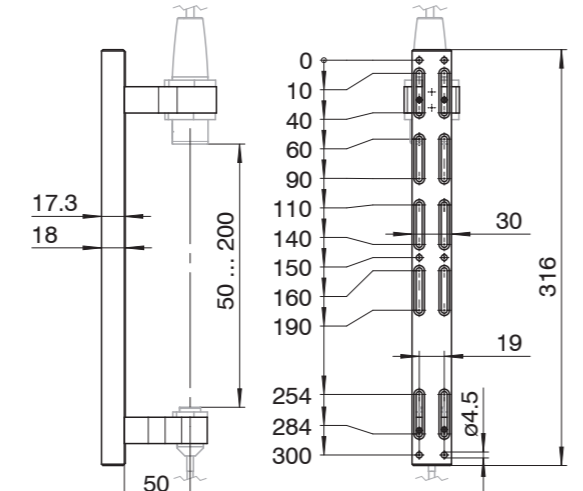
colorCONTROL
Transmission Sensor ACS3

FCS-X-ACS3-TRX-200-XXXX (Receiver)

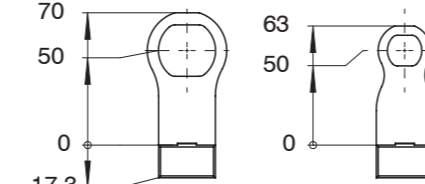
FCS-X-ACS3-TT15-200-XXXX (Transmitter)



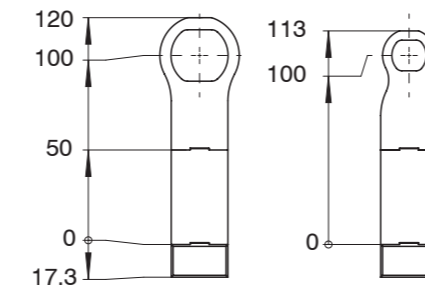
FCS-X-ACS3-TR5-200-XXXX	dR = 5 mm (.20 mm)	L = max. 100 mm (3.94 mm)
FCS-X-ACS9-TR5-200-XXXX	dR = 9 mm (.35 mm)	L = max. 200 mm (7.87 mm)



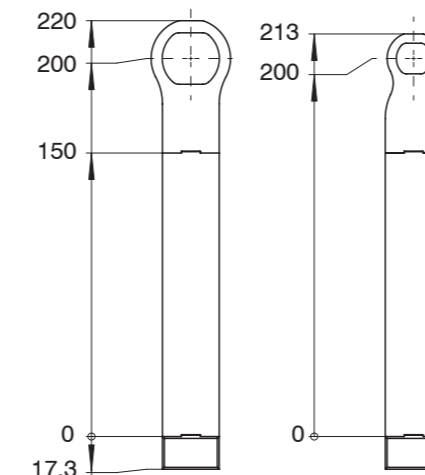
FCS-ACS3-200 mounting rail



FCS-ACS3 mounting adapter, standard



FCS-ACS3 mounting adapter 50 mm



FCS-ACS3 mounting adapter 150 mm

FCS-ACS Adapter TT-TR

suitable for FCS-X-ACSX

Couples the ACS illumination (FA1 connector) as alignment aid onto the ACS receiving fibers (DIN connector).

Installation without mounting-rail

First step: Aligning the transmitter towards the receiver.

- ➔ Connect the transmitter to the controller and switch on the light source.
- ➔ Align the transmitter towards the receiver in such a way that the latter is in the center of the illumination spot.

Second step: Aligning the receiver towards the transmitter.

- ➔ Use the FCS-ACS adapter TT-TR in order to connect the receiver to the LED light source in the controller.



FCS-ACS adapter TT-TR

- ➔ Align the receiver in such a way that the transmitter is in the center of the light spot generated by the receiver.
- ➔ Remove the adapter. Connect the transmitter to the light source and the receiver to the spectrometer entrance.

colorCONTROL
Tactile Adapter

FCS-ACS1-30/0 Adapter tactile

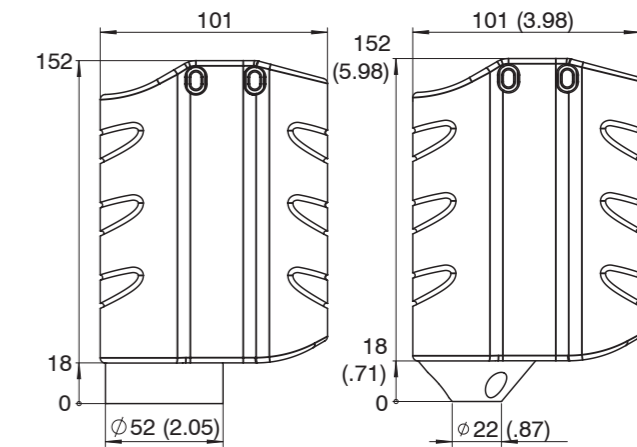
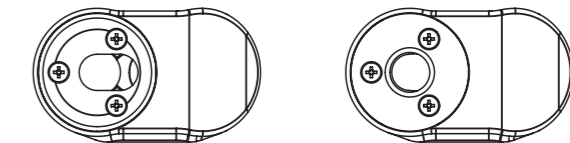
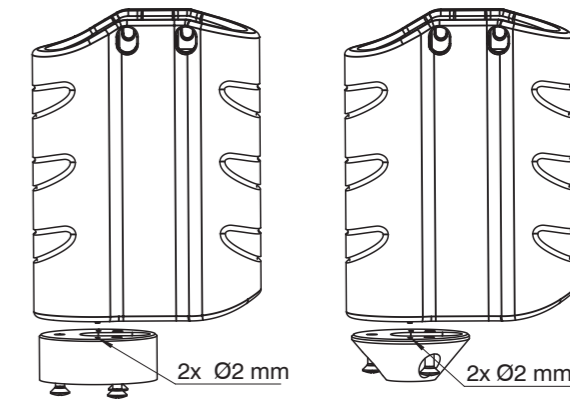
for sensor FCS-X-ACS1-30/0-50-XXXX



NOTICE Observe the sensor mounting instructions in the operating instructions, see Chap. 4.5.

Procedure:

- ➔ Move the sensor into the adapter until mechanical stop, see Figure A.
- ➔ Mount the sensor in the adapter using the supplied screws.



The adapter enables it, to test samples for the quality control at a random check with defined distance, angle and ambient conditions.

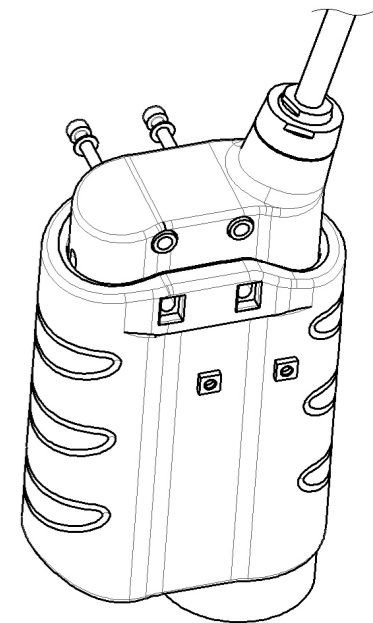


Figure A