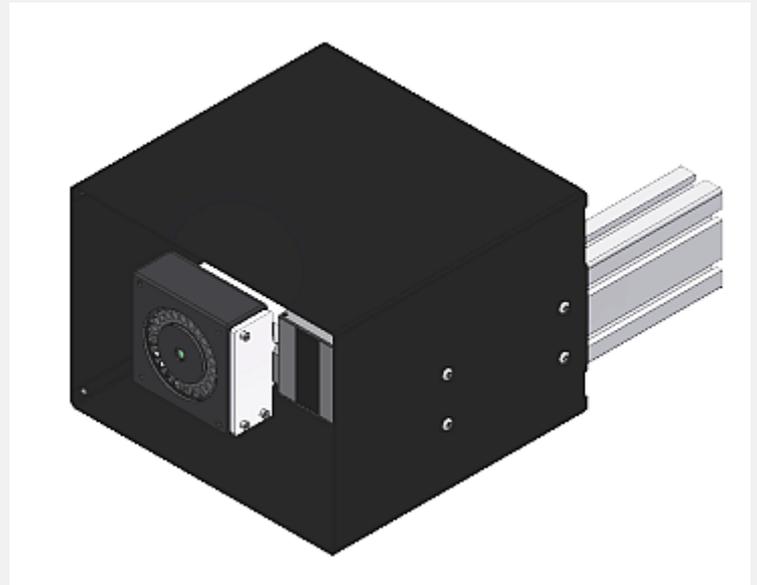


Accessories

▶ SPECTRO-3-28-45°/0°-ICAL

Integrated calibration device
suitable for color sensors of type
SPECTRO-3-28-45°/0°-MSM-ANA-VIS (-VISUV)
SPECTRO-3-28-45°/0°-MSM-DIG-VIS (-VISUV)

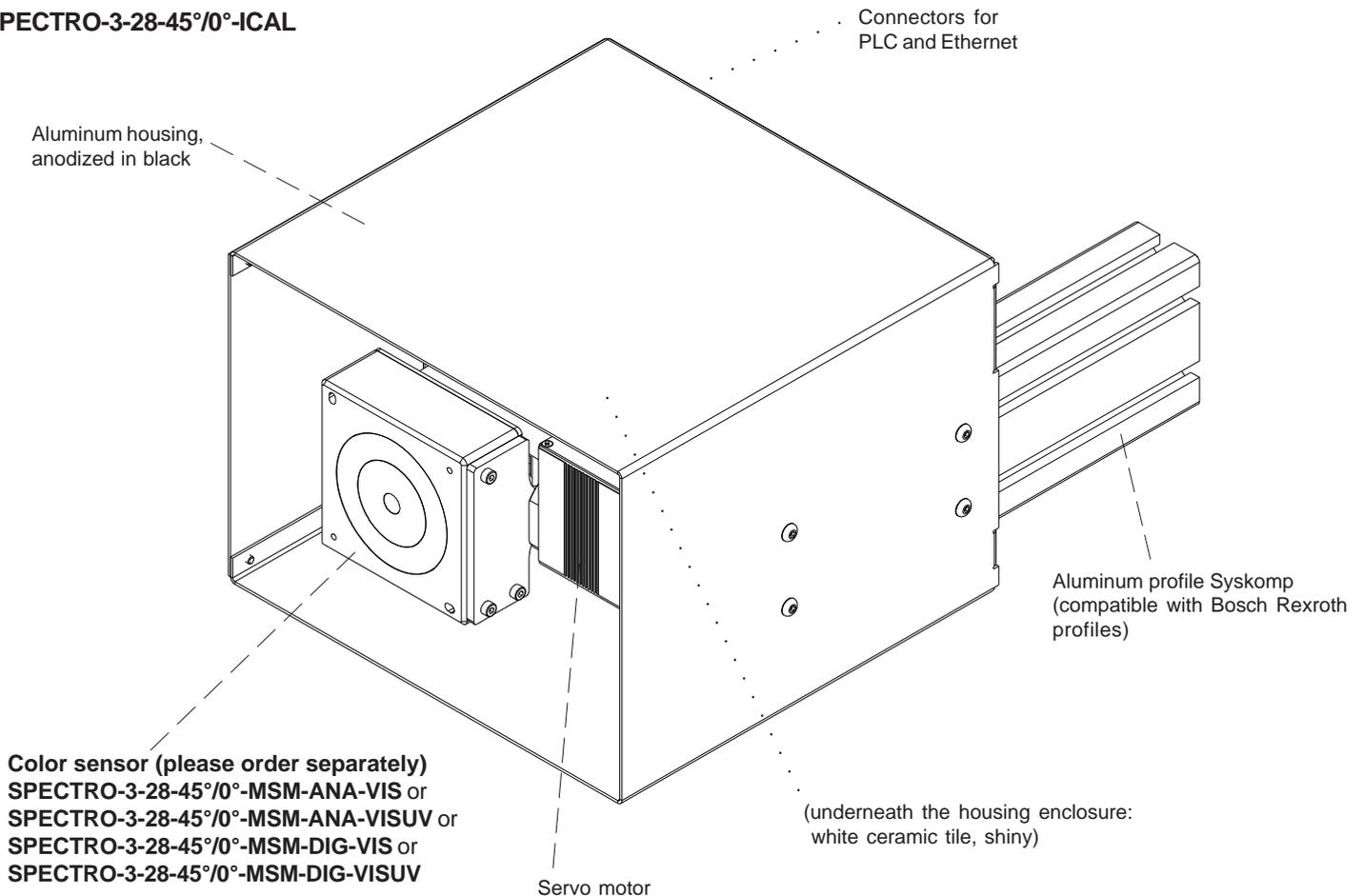
- Working distance 28 mm
- Automatic calibration via digital input IN0
- Ethernet interface
- Voltage supply and connection to PLC:
4-pole connectors M12
- Integrated PLC to activate the white light balancing
as well as to position the color sensor in front of the object
or in front of the white ceramic tile
- Easy mounting to standard aluminium profiles



Design

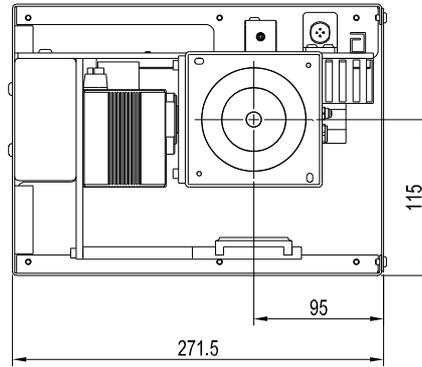
Product name:

SPECTRO-3-28-45°/0°-ICAL

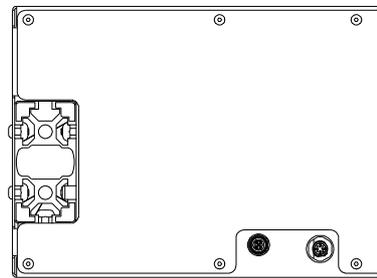
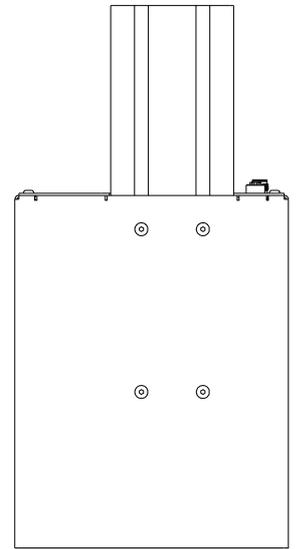
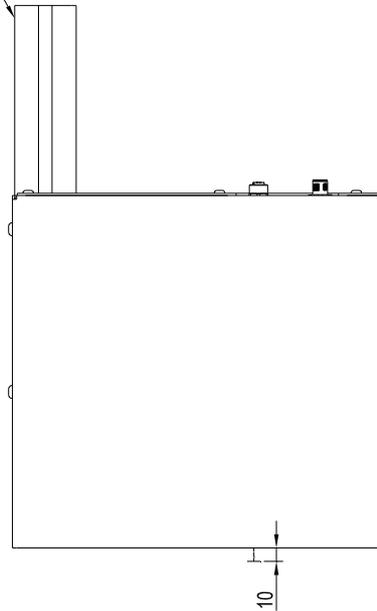
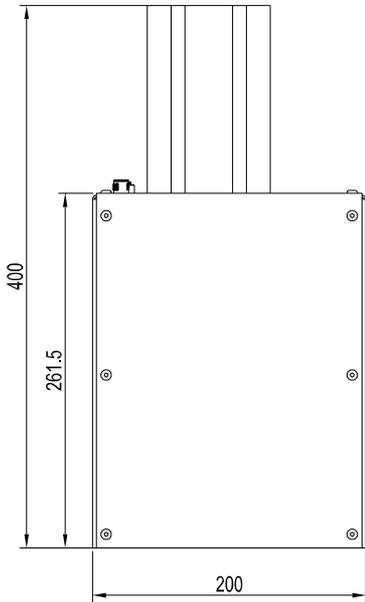




Dimensions

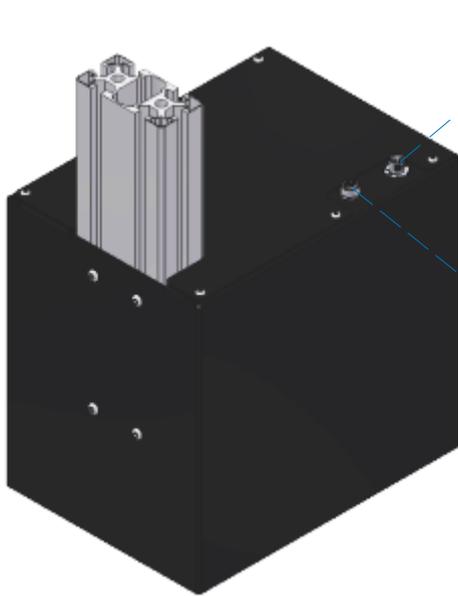


Aluminum profile 45x90L I=300 (411992432) Syskomp (compatible with Bosch Rexroth profiles)



All dimensions in mm

Connector Assignment



4-pole M12 connector
Connection to PLC

4-pol. M12 fem. connector
(D-coded)
Ethernet interface
(= cab-4/ETH-500)

**Connection to PLC
4-pole connector M12**

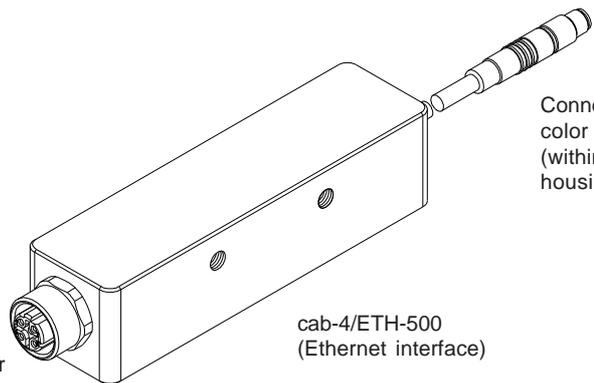
Pin: Assignment:
1 24VDC ($\pm 10\%$)
2 IN0 (SPECTRO-3-28-45°/0°-MSM-...) output
3 GND (0V)
4 IN0 (servo motor) output

Connecting cable:
cab-M12/4-g-(length)

Anschluss an PC (Ethernet):

via the integrated Ethernet cable cab-4/ETH-500
(incl. software „SensorFinder“):

for connection of an external
CAT5 cable, e.g.
cab-eth/M12D-RJ45-flx-(length)



4-pole M12 fem. connector
(D-coded)

cab-4/ETH-500
(Ethernet interface)

Connection to
color sensor
(within the
housing)

**Auto-Calibration****Function of auto-calibration**

The SPECTRO-3-28-45°/0°-ICAL system is equipped with an integrated white-light balancing unit, which means that neither the object to be measured nor the sensor must be removed during white-light balancing because all the components that are required for white-light balancing are integrated in the SPECTRO-3-28-45°/0°-ICAL system.

White-light balancing is initiated by means of a +24V pulse (pulse duration >0.5s) at input IN0 (pin4 of the 4-pole M12 plug). When this pulse arrives the PLC that is integrated in the SPECTRO-3-28-45°/0°-ICAL system activates the system's integrated servo motor, which rotates the color sensor by 90° away from the object towards the reference surface (white ceramic tile, glossy).

When the white-light balancing position is reached, the integrated PLC sends a +24V signal (HIGH signal) to IN0 of the color sensor, which activates the procedure for white-light balancing in the color sensor. This procedure ends when the IN0 color sensor signal is set to 0V (LOW signal). The color sensor system is thus balanced to the reference surface again, and is then automatically rotated back to the measuring position (0° position, aligned to the object to be measured).

The presence of the IN0 color sensor signal at pin2 of the 4-pole M12 plug informs the external PLC about the white-light balancing process.

Activation of white-light balancing through the external PLC:

- IN0 servo motor (pin4 of 4-pole M12 plug) -> is started by a +24V pulse (pulse duration >0.5s)
- Servo motor is activated
- IN0 color sensor signal to the external PLC (IN0 pin2 is set to HIGH)
- When the end position (white ceramic tile) is reached, the servo motor stops
- IN0 color sensor signal to SPECTRO-3-28-45°/0°-MSM-... (pin3 IN0) is set to HIGH
- IN0 color sensor signal (pin3 IN0 to color sensor) remains HIGH until white-light balancing is finished, and is then set to LOW.
- IN0 color sensor signal (to external PLC) is set to LOW