



More Precision

color**CONTROL** ACS7000 // Inline color measuring system





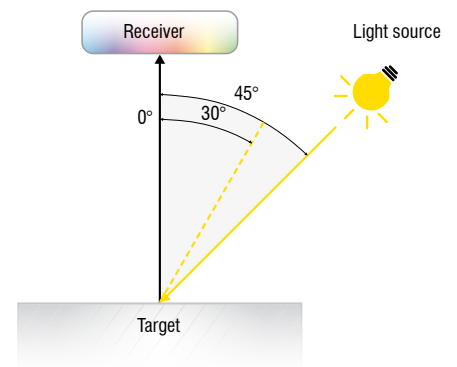
- For common measuring tasks
- Measurement distance: 38 or 50mm
- Measurement geometry 45°/0° or 30°/0°
- Measurement spot: $\varnothing 9\text{mm}$

The standard sensor ACS1 is used for common measuring tasks. The transmitter and the receiver inside the sensor are arranged at an angle of 30°/0° or 45°/0° to each other, producing a working distance of 50mm or 38mm.

An optionally available adapter permits applying the 30°/0° sensor even in tactile measurements.

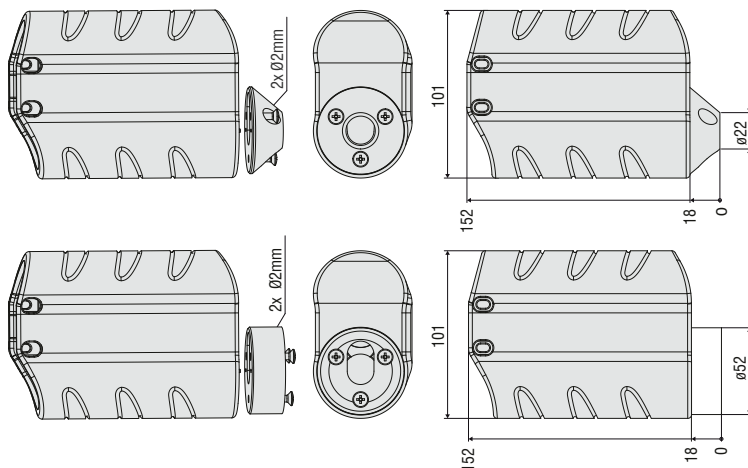
Measurement geometry

Standard sensor 45°x:0°; 30°x:0°



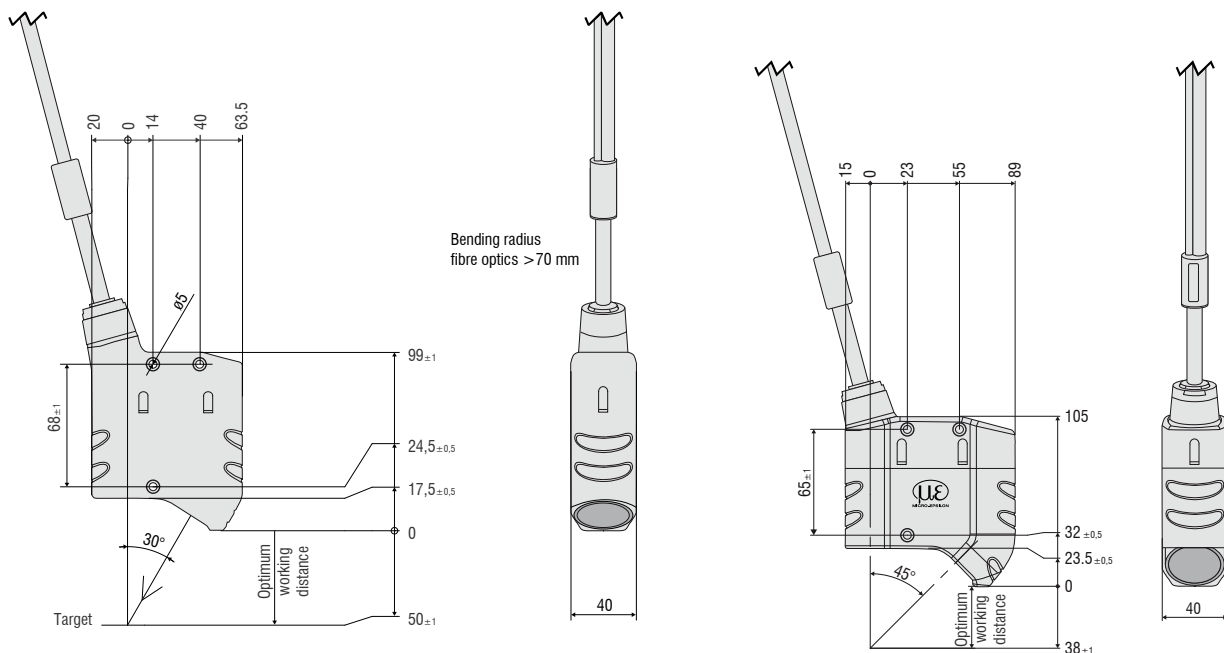
FCS-ACS1-30/0 tactile adapter

Art. no. 10824338

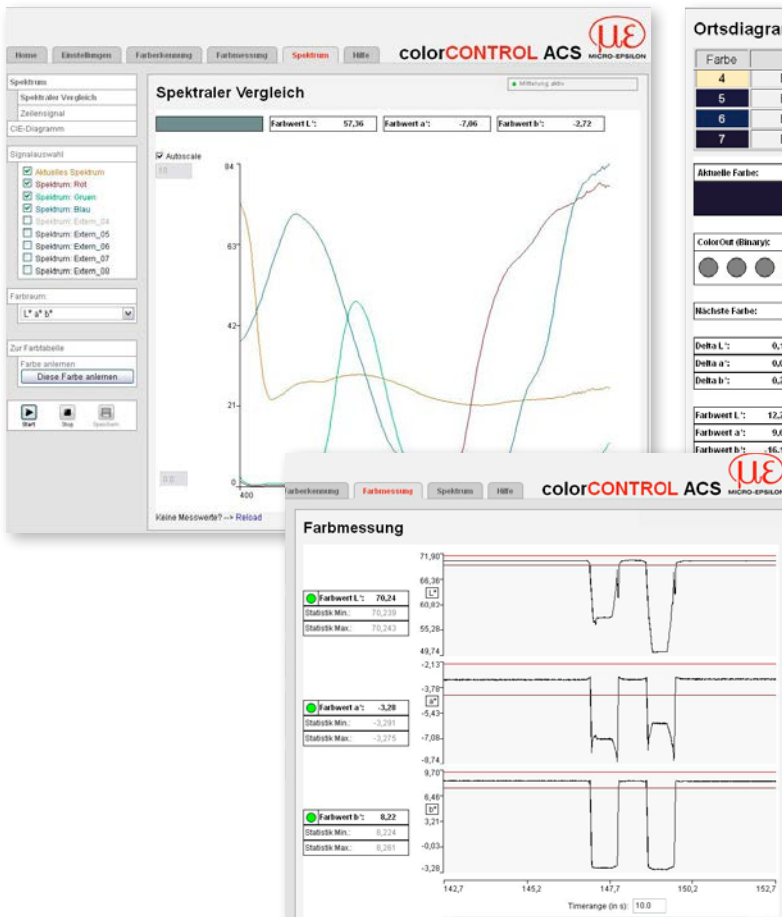


Fiber-optic sensor FCS-T	ACS1-30/0-50-1200	ACS1-45/0-38-1200
Article number	10824175	10824371
Measurement geometry (illumination / receiver)	30°x:0°	45°x:0°
Measuring spot diameter	9mm	9mm
Optimal measurement distance	50mm	38mm
Permissible measurement distance	±2mm of optimal measurement distance ($\Delta E < 1$)	±1mm of optimal measurement distance ($\Delta E < 1$)
Distance tolerance	0.5 ΔE /mm	1 ΔE /mm
Tilt angle tolerance	<0.3 ΔE /°	<1.33 ΔE /°
Ambient light tolerance at max. LED performance ¹⁾	<0.5 ΔE / 1000 lux	<0.6 ΔE /1000 lux
Dimensions	85 x 120 x 40mm	106 x 125 x 40mm
Weight (sensor incl. optical fiber)	420g	500g
Length of the optical fiber/sensor cable (optical-fiber cable)	1.2m (max 1.8m)	1.2m (max 1.8m)
Bending radius sensor cable	70mm	70mm
Protection class	IP64	IP64
Operating temperature	-20°C ... +50°C	-20°C ... +50°C
Storage temperature	-20°C ... +50°C	-20°C ... +50°C
Shock resistance	DIN EN 60068-2-29; 15g, 6ms	DIN EN 60068-2-29; 15g, 6ms
Vibration resistance	DIN EN 60068-2-6; 2g / 10Hz...500Hz	DIN EN 60068-2-6; 2g / 10Hz...500Hz

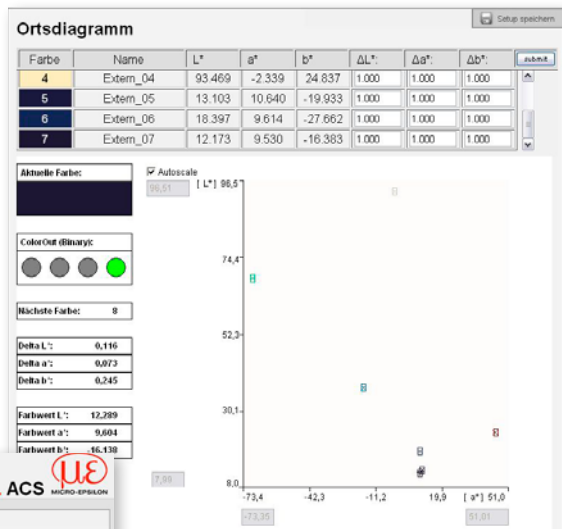
¹⁾ Measured at maximum illumination for reference tile (R = 61%) light gray with warm white external LED light source



Spectrum and color location in user interface



Depiction of color values in the color space



Measurements of XYZ, L*a*b*, L*u*v*, L*c*h shown over time

Applications:

- Inline measurement in production lines, all industries: plastics, wood, paper, glass, films, injection molding, textiles and medicine
- Color measurement of interior parts
- Inspection of car paint

Advantages:

- Continuous process measurement to ensure consistent product quality
- Direct influence on the production process is possible
- Reduction of production cost
- Waste reduction



Inline measurement of the color gradient of glass, Plexiglas®, PET and PVC films and paper



Measurement of the zinc strip color in production



Interior and attachment parts in the automotive industry

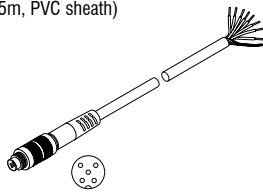


colorCONTROL ACS accessories

Art. no.	Description	suitable for
11234694	White standard 30mm Zenith	colorSENSOR and colorCONTROL
11234695	White standard 30mm Zenith	colorSENSOR and colorCONTROL
11234696	White standard 5x5cm Zenith	colorSENSOR and colorCONTROL
11234697	White standard 5x5cm Zenith calibrated	colorSENSOR and colorCONTROL
11234222	CAB-M9-4P-St-ge;2m-PUR;open	colorCONTROL ACS7000 (power)
11234225	CAB-M9-4P-St-ge;5m-PUR;open	colorCONTROL ACS7000 (power)
11234091	CAB-M9-8P-St-ge;2m-PUR;open	colorCONTROL ACS7000 (digital I/O, Sync.)
11234099	CAB-M9-8P-St-ge;5m-PUR;open	colorCONTROL ACS7000 (digital I/O, Sync.)
11234223	CAB-M9-7P-St-ge;2m-PUR;open	colorCONTROL ACS7000 (Color Out)
11234226	CAB-M9-7P-St-ge;5m-PUR;open	colorCONTROL ACS7000 (Color Out)
11294232	CAB-RJ45-Eth; 2m-PVC-Cat5e; RJ45-Eth	colorCONTROL ACS7000 (Ether-net/-CAT)
11293257	CAB-RJ45-Eth; 5m-PVC-Cat5e; RJ45-Eth	colorCONTROL ACS7000 (Ether-net/-CAT)
11294277	CAB-RJ45-Eth-Cross; 3m-PVC-Cat5e; RJ45-Eth	colorCONTROL ACS7000 (Ether-net/-CAT)
11293258	CAB-RJ45-Eth-Cross; 5m-PVC-Cat5e; RJ45-Eth	colorCONTROL ACS7000 (Ether-net/-CAT)
11234224	CAB-M9-5P-co-straight; 2m-PVC-RS422; open ends	colorCONTROL ACS7000 (RS422)
11234227	CAB-M9-5P-co-straight; 5m-PVC-RS422; open ends	colorCONTROL ACS7000 (RS422)
11234230	CAB-M9-5P-co-straight; 2m-PVC-RS422; Sub-D-15P-co-straight	colorCONTROL ACS7000 (IF2008)
11234231	CAB-M9-5P-co-straight; 5m-PVC-RS422; Sub-D-15P-co-straight	colorCONTROL ACS7000 (IF2008)
2213017	IF2008 Interface card RS422 / PCI-card	colorCONTROL ACS7000 (RS422/PC)
2213025	IF2001/USB 1-channel RS422/USB converter	colorCONTROL ACS7000
10824338	FCS-ACS1-30/0 adapter tactile	FCS-X-ACS1-30/0-50-XXXX
10824424	FCS-ACS adapter TT-TR	all ACS sensor heads (connection illumination into receiving fibers)
10824804	FCS-ACS3 90° Aufsatz	FCS-X-ACS3 TT and TR
10824414	FCS-ACS3-200 mounting rail	FCS-X-ACS3
10824423	FCS-ACS3 mounting adapter 50mm	FCS-ACS3-200 mounting rail
10824422	FCS-ACS3 mounting adapter 150mm	FCS-ACS3-200 mounting rail
10824708	FCS-ACS1/ILD1420 adapter plate angled	FCS-X-ACS1 distance readjustment with ILD1420
10824709	FCS-ACS2/ILD1420 adapter plate angled	FCS-X-ACS2 distance readjustment with ILD1420
10824710	FCS-ACS2/ILD1420 adapter plate angled	FCS-X-ACS2 distance readjustment with ILD1420
2420065	PS2030 power supply 24V/24W/ 1A; 2m-PVC; terminal-2P-co-fm-straight	CAB-M9-4P-co-straight; Xm-PUR; open ends (power)

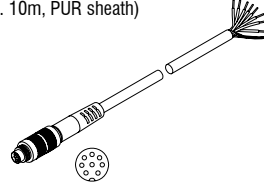
Pin assignment

CAB-M9-5P-co-straight; Xm-PVC-RS422; open ends
 (art.no.: 11234224; 11234227)
 Connection cable RS422
 (max. length 5m, PVC sheath)



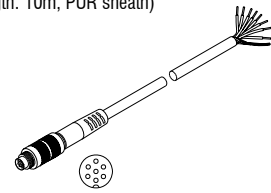
Pin	Color	ACS7000	15 PIN IF2008	10 PIN IF2001
1	white	TX	3	3
2	brown	/TX	4	4
3	green	/RX	2	2
4	yellow	RX	1	1
5	gray	GND RS422 (DC isolated)	15	9

CAB-M9-8P-co-straight; Xm-PUR; open ends
 (art.no.: 11234091; 11234098)
 Connection cable to power/PLC or digital I/O
 (max. length. 10m, PUR sheath)



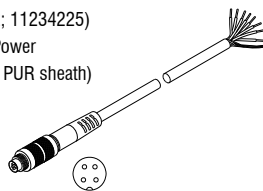
Pin	Color	ACS7000
1	white	Error
2	brown	GND Error
3	green	Sync. OUT
4	yellow	GND Sync. OUT
5	gray	Sync. IN
6	pink	GND Sync. IN
7	blue	LLL/ HLL
8	red	LLL/ HLL

CAB-M9-7P-co-straight; Xm-PUR; open ends
 (art.no.: 11234223; 11234226)
 Connection cable color OUT
 (max. length. 10m, PUR sheath)



Pin	Color	ACS7000
1	white	OUT0
2	brown	OUT1
3	green	OUT2
4	yellow	OUT3
5	gray	GND
6	pink	n. c.
7	blue	n. c.

CAB-M9-4P-co-straight; Xm-PUR; open ends
 (art.no.: 11234222; 11234225)
 Connection cable Power
 (max. length. 10m, PUR sheath)



Pin	Color	ACS7000
1	white	n. c.
2	brown	+24V DC (±15%)
3	black	n. c.
4	blue	GND (0V)

High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



2D/3D profile sensors (laser scanner)



Optical micrometers, fiber optic sensors and fiber optics



Color recognition sensors, LED analyzers and color inline spectrometer



Measurement and inspection systems