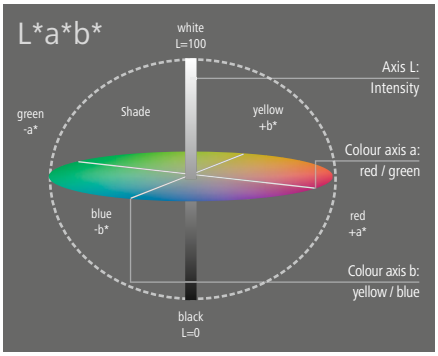
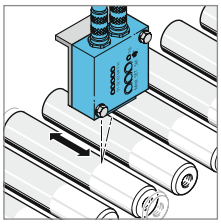
Colour Sensors

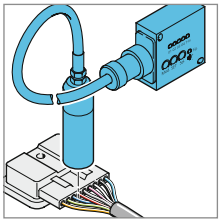
These high-quality sensors detect shades in changes to colour or surface structures and are frequently used in quality testing.

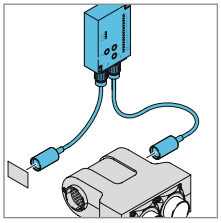


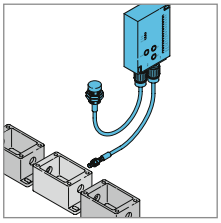
Colour sensors

- Perceptive operating mode (depending on sensitivity)
- Measurement in colorimetric colour spaces e. g. L*a*b and L*u*v
- Differentiation of very small colour nuances (ΔE <1)
- Up to 350 channels
- 2-channel differential evaluation
- Adjustable colour tolerance
- Very short response time
- High ambient light compensation
- Reflection compensation
- Exportable measured values for PC applications (.xls, .csv)
- Extensive setting options via PC
- Surface structure checking
- Separate evaluation of brightness and colouring
- Illumination with aging-compensated white light LED
- Key lock function
- Fixed optics or fibre-optic cable adaption
- Fibre-optic cable with various auxiliary optics
- Visualisation of chrominance values with PC software
- FS software included in the scope of delivery







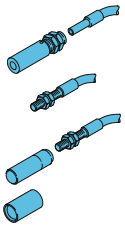
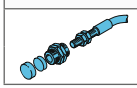


FS TOOL FS EASY

Technical data (typ.)	+20 °C, 24 V DC		
Emitting light source	White light LED, can be switched off		
Colour resolution	DE Lab < 1		
Response time / Scan frequency	0,2 ms	5.000 Hz:	up to 350 colous evaluable
	0,1 ms	10.000 Hz:	up to 30 colous evaluable
	0,05 ms	20.000 Hz:	3 colous evaluable
Service voltage	18 ... 28 V DC		
Internal power consumption	500 mA		
Protection class	IP 54		

	Operating distance (mm)	Number of sensing channels	Teach-In colour channels (nos.)	Operation via software	Button operation	Colour channels with binary coding (nos.)	Fibre-optic cable adapter	Fixed optics	Colour memory internal	4x npn + pnp (Push-pull)	12x npn + pnp (Push-pull)	Illumination with age compensating white light LED	Profibus	Product-ID
Farbsensoren														**Product-ID**
	see fibre-optic cables	1	4		■	–	■		4	■		■		FSB 50 M G3-B8
	30 ... 60				■			■						FSB 50 M 60 G3-B8
	see fibre-optic cables	1	4	■	■	15	■		350	■		■		FS 50 M G3-B8
	30 ... 60			■	■			■						FS 50 M 60 G3-B8
	see fibre-optic cables	1	12	■	■	350	■		350		■	■		FS 12-100-1 M G8-B8[1]
		2		■	■						■	■ [3]		FS 12-100-2 M G8-B8[1]
		2		■	■							■ [3]	■	FS 12-100-2 M G8-B8-PB[2]
	Connecting cable 5 m													BSHM-Z-5/8-A
	Adapter cable 0,25 m (USB/RS232)													RS232S-0.25-USB
	Connecting cable 2 m (USB)													BSHM-Z-2/4-USB
	Connecting cable 2 m (RS232)													BSHM-Z-2/4-RS232K

[1] Versions with CANopen and fast Ethernet Feldbus interface available upon request / [2] Profibus / [3] with stabilization target

	Focus optics	Fibre-optic cable to be used as diffuse sensor	Fibre-optic cable to be used as through beam sensor	Measuring spot Ø (mm)	Active Ø (mm)	Opening angle	Working distance (mm)	Scanning distance (mm)	Size (mm) Dimensions sensor probe	Mounting fibre-optic cable / focus optics	Material focus optics Aluminium, anodised	Material sensor probe stainless steel	Protection class	Product-ID
Fibre-optic cables and focus optics for colour sensors with fiber-optic cable adapter														**Product-ID**
		■		–	2,5	67 °	–	–	Ø 4,5 x 12	Ø 4,5		■	IP 67	WRB 120 S-SG-4.5-2.5
	■			2,0	–	–	10	10 ... 15	Ø 15 x 60	Ø 4,5	■		–	VO-M12/10-4.5-2.5
		■		–	2,5	67 °	–	–	M4 x 20	M4		■	IP 67	WRB 120 S-SG-M4-2.5
		■		–	2,5	67 °	–	–	M6 x 30	M6		■	IP 67	WRB 120 S-SG-M6x30-2.5
	■			6,0	–	–	35	30 ... 60	Ø 22 x 63	M6	■		–	VO-M6/35-M6x30-2.5
	■			6,0	–	–	50	35 ... 60	Ø 22 x 39	M6	■		–	VO-M6/50-M6x30-2.5
			■	–	2,5	67 °	–	–	Ø 4,5 x 12	Ø 4,5		■	IP 67	WRB 220 S-4.5-2.5
	■			14	–	–	90	70 ... 150	40 x 50 x 22	Ø 4,5	■		–	VO-F/90-4.5-2.5
	■			20	–	–	200	150 ... 300	40 x 50 x 22	Ø 4,5	■		–	VO-F/200-4.5-2.5
Stabilisation target for external drift stabilisation and matching fibre-optic cable (only for FS 12-100-2 M ...)														
	Target colours: RAL 9003 / RAL 7046 / black				–	–	–	–	M6	■			–	FS-STAB
	Fibre-optic cable 300 mm				67 °	–	–	M6 x 20	M6			■	IP 67	WRB 110 S-M6-2.5