



- *Multipoint color recognition system*
- *Optionally with up to 495 channels*
- *Color inspection in HSI and RGB color spaces*
- *Color differentiation/intensity tests/function tests*

Features:

- Versatile coupling possibilities for fiber optics
- Individual configuration of fiber optics
- Each measuring position is freely configurable in terms of color, intensity and function
- Integration into testing process
- Good/bad evaluation
- Output of HSI, RGB and xy values via RS232 or USB
- External trigger
- Exchangeable adapter for fiber optics
- Suitable for POF (2 m) and optical glass fiber optics up to 5 m
- Up to 20 testing points using different assembly kits

Applications:

- Testing self-luminous objects
- LED tests (binning)
- Indication tests
- Display tests
- Seven-segment display tests
- Parallel and simultaneous inspection of up to 495 channels ≤ 1 s
- Front panel tests
- With external illumination, multipoint color testing is possible

Function:

The information about color, intensity and light are directly transmitted from the measuring object to the MFA sensor via single fiber bundles and evaluated at up to 20 points at the same time.

The inspection of inaccessible specimens and/or specimens situated far apart from one another can easily be achieved using the MFA series, as optical fibers transmit the information to the evaluation unit.

Using the colorCONTROL MFA-5-M expansion module, the colorCONTROL MFA-5 can be extended by 5 testing points to 20 testing points. Additionally, one of the assembly kits is required depending on the construction depths (see accessories). For example: 20 testing points require: 1x colorCONTROL MFA-5 + 3x colorCONTROL MFA-5-M + 1x assembly kit MFA-20.

The colorCONTROL MFA-5-P board model is delivered without protection housing and can be interconnected with other MFA-5-P sensors. Here it is possible to switch up to 99 MFA-5-P sensors in series and to test 495 channels simultaneously.

Model	MFA-1	MFA-5	MFA-5-M ¹⁾	MFA-5-P ²⁾
Article number	11094302	11094050	11094051	11094052
Detection points	1	5	extension of MFA-5 by 5 each	5
Test spectrum	480 - 1000 nm	450 - 650 nm		
Supply voltage	10 ... 30 VDC	24 VDC \pm 10 % residual ripple	24 VDC via MFA-5	5 VDC
Current consumption	100 mA	80 mA - 320 mA	160 - 320 mA	80 mA
Interface	-	RS232, USB, Daisy Chain	Daisy Chain	RS232, USB, Daisy Chain
Inputs	1 external teach input	-	-	-
Outputs	1 switching output NPN/PNP	-	-	-
	-	-	-	-
	-	-	-	-
Photo receiver	1 x b/w photodiode	5x True Color photo chip		
Accuracy	\pm 5 %	\pm 4 nm		
Resolution	-	9 - 81 pixels / detection point		
Data memory	EEPROM	-	-	-
Object distance	typ. 1 - 5 mm			
Optical fiber (length)	incl. POF \varnothing 2.2 mm ³⁾ x 1 m; max. POF 2 m / glass 5 m	incl. POF \varnothing 2.2 mm ³⁾ x 0.5 m; max. POF 2 m / glass 5 m		
Color space	-	HSI, RGB, xy + color temperature in K		
Dynamic range	200 lx - 4000 lx			
Testing frequency	\leq 5 Hz	\leq 1 Hz (100 detection points \leq 1 s)		
Operating temperature	0 ... +60 °C	0 ... +50 °C		
Humidity	20% to 80% rel. humidity (non-condensing)			
Protection class	IP65	IP50	IP50	IPO

¹⁾ Modular expansion to 10/15/20 measuring positions

²⁾ Modular expandable to 495 channels (99 pieces in series connection)

³⁾ Reduction to \varnothing 1.0 mm is possible with reducing adapter

Dimensions:

Dimensions in mm, not to scale

