



- *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  $\leq 1$  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-5	MFA-5-M <sup>1)</sup>	MFA-5-P <sup>2)</sup>
Article number	11094050	11094051	11094052
Detection points	5	extension of MFA-5 by 5 each	5
Test spectrum		450 - 650 nm	
Supply voltage	24 VDC $\pm$ 10 % residual ripple	24 VDC via MFA-5	5 VDC
Current consumption	80 mA - 320 mA	160 - 320 mA	80 mA
Interface	RS232, USB, Daisy Chain	Daisy Chain	RS232, USB, Daisy Chain
Accuracy		$\pm$ 4 nm	
Resolution		9 - 81 pixels / detection point	
Object distance		typ. 1 - 5 mm	
Optical fiber (length)		incl. POF $\varnothing$ 2,2 mm <sup>3)</sup> 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		$\leq$ 1 Hz (100 detection points $\leq$ 1 s)	
Operating temperature		0 ... +50 °C	
Humidity		20% to 80% rel. humidity (non-condensing)	
Protection class	IP50	IP50	IP0

<sup>1)</sup> Modular expansion to 10/15/20 measuring positions

<sup>2)</sup> Modular expandable to 495 channels (99 pieces in series connection)

<sup>3)</sup> Reduction to  $\varnothing$  1.0 mm is possible with reducing adapter

### Dimensions:

Dimensions in mm, not to scale

