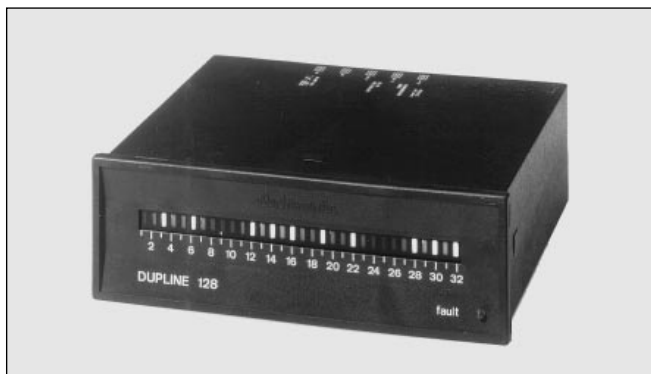


# Display for Digital Signals Types FK3C3, FK4C3



- 8-, 16- or 32-channel status indicator
- 8-, 16- or 32-dot LED display
- NPN transistor output for loss of Dupline® carrier
- Horizontal or vertical panel mounting, DIN 43700
- AC/DC power supply

## Product Description

Dupline® display for panel mounting. Status indication of 8, 16 or 32 channels in 8-, 16- or 32-segment single-point LED representation. Display function normal or

inverted for fast locating of deviations from normal operation, e.g. missing start-up conditions, open doors and windows, machine fault annunciation etc.

## Ordering Key

**FK3C 3508 024**

Type: Dupline®

Display type

Housing

Type no.

Supply

## Type Selection

| Supply                       | Ordering no.<br>8 channels<br>8-dot LED         | Ordering no<br>16 channels<br>16-dot LED        | Ordering no.<br>32 channels<br>32-dot LED       |
|------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| 24 VAC<br>120 VAC<br>220 VAC | FK3C 3508 024<br>FK3C 3508 120<br>FK3C 3508 220 | FK3C 3616 024<br>FK3C 3616 120<br>FK3C 3616 220 | FK4C 3732 024<br>FK4C 3732 120<br>FK4C 3732 220 |
| 12 VDC                       | *                                               | *                                               | *                                               |
| Code module                  | FMK A to FMK P                                  | FMK A-B to O-P                                  | FMK A-D to M-P                                  |

\* All AC-types may be supplied with 12 VDC at pins 2 & 3

## Display/Output Specifications

|                       | F.3C 3508 ...<br>(8 channels) | F.3C 3616 ...<br>(16 channels) | F.4C 3732 ...<br>(32 channels) |
|-----------------------|-------------------------------|--------------------------------|--------------------------------|
| <b>Display</b>        |                               |                                |                                |
| Display format        | Channel status                | Channel status                 | Channel status                 |
| Display range         | 8 dots                        | 16 dots                        | 32 dots                        |
| Display type          | LED                           | LED                            | LED                            |
| Size of dots          | 5 x 5 mm                      | 6 x 3 mm                       | 5 x 2 mm                       |
| Display colour        | Red                           | Red                            | Red                            |
| Display test          | None                          | None                           | None                           |
| Transmission protocol | Binary                        | Binary                         | Binary                         |

## Display/Output Specifications (cont.)

|                               | <b>F.3C 3508 ...<br/>( 8 channels)</b> | <b>F.3C 3616 ...<br/>(16 channels)</b> | <b>F.4C 3732 ...<br/>(32 channels)</b> |
|-------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| <b>Output</b>                 | 1 NPN transistor                       | 1 NPN transistor                       | 1 NPN transistor                       |
| Output voltage range $V_{BB}$ | 4 to 35 VDC (or $V_{DD}$ in)           | 4 to 35 VDC (or $V_{DD}$ in)           | 4 to 35 VDC (or $V_{DD}$ in)           |
| Reverse-polarity protection   | Yes                                    | Yes                                    | Yes                                    |
| Current per output            | $\leq 100$ mA                          | $\leq 100$ mA                          | $\leq 100$ mA                          |
| Short-circuit protection      | None                                   | None                                   | None                                   |
| Built-in protective diodes    | None                                   | None                                   | None                                   |
| Off-state leakage current     | $\leq 100$ $\mu$ A                     | $\leq 100$ $\mu$ A                     | $\leq 100$ $\mu$ A                     |
| Output voltage drop           | $\leq 1.5$ V                           | $\leq 1.5$ V                           | $\leq 1.5$ V                           |
| Cable length                  | $\leq 3$ m                             | $\leq 3$ m                             | $\leq 3$ m                             |
| Dielectric voltage            |                                        |                                        |                                        |
| Output - Dupline®             | None                                   | None                                   | None                                   |
| Output connection             | 2.8 mm faston                          | 2.8 mm faston                          | 2.8 mm faston                          |
| <b>Dupline® connection</b>    | 2.8 mm faston                          | 2.8 mm faston                          | 2.8 mm faston                          |
| <b>Response time</b>          | < 2 pulse trains                       | < 2 pulse trains                       | < 2 pulse trains                       |

## Supply Specifications

|                                    |                                   |
|------------------------------------|-----------------------------------|
| <b>Power supply AC types</b>       | Overvoltage cat. III (IEC 60664)  |
| Operational voltage                |                                   |
| through pins A1 & A2               | 220 230 VAC +6%, -15% (IEC 60038) |
| 120                                | 120 VAC $\pm 10\%$ (IEC60038)     |
| 024                                | 24 VAC $\pm 10\%$                 |
| Frequency                          | 45 to 65 Hz                       |
| Voltage interruption               | $\leq 40$ ms                      |
| Rated operational power            | Typ. 6 VA                         |
| Rated impulse withstand voltage    |                                   |
| 220                                | 4 kV                              |
| 120                                | 2.5 kV                            |
| 024                                | 800 V                             |
| Dielectric voltage                 |                                   |
| Supply - Dupline®                  | $\geq 2$ kVAC (rms)               |
| Supply - Output                    | $\geq 2$ kVAC (rms)               |
| <b>Alternative DC supply</b>       | Overvoltage cat. III (IEC 60664)  |
| Operational voltage ( $V_{DD}$ in) |                                   |
| through pins 2 & 3                 | 12 VDC $\pm 10\%$                 |
| FK...                              | (ripple included)                 |
| Reverse polarity protection        | Yes                               |
| Rated operational current          |                                   |
| FK3C 3508                          | $\leq 125$ mA                     |
| FK3C 3616                          | $\leq 250$ mA                     |
| FK4C 3732                          | $\leq 500$ mA                     |
| Inrush current                     | $\leq 1$ A                        |
| Transient protection voltage       | 800 V                             |
| Dielectric voltage                 |                                   |
| Supply - Dupline®                  | None                              |
| Supply - Output                    | None                              |
| <b>Supply connection</b>           | 2.8 mm faston                     |

## General Specifications

|                                  |                                                |
|----------------------------------|------------------------------------------------|
| <b>Output-off delay</b>          |                                                |
| upon loss of Dupline® carrier    | $\leq 3$ s, (LCD irregular display indication) |
| <b>Power ON delay</b>            | Undefined $\leq 1$ s                           |
| <b>Indication for</b>            |                                                |
| Loss of Dupline® carrier         | LED, red                                       |
| <b>Environment</b>               |                                                |
| Degree of protection             | IP 40                                          |
| Pollution degree                 | 3 (IEC 60664)                                  |
| Operating temperature            | 0° to +50°C (+32° to +122°F)                   |
| Storage temperature              | -20° to +60°C (-4° to +140°F)                  |
| <b>Humidity (non-condensing)</b> | 20 to 80%                                      |
| <b>Mechanical resistance</b>     |                                                |
| Shock                            | 15 G (11 ms)                                   |
| Vibration                        | 2 G (6 to 55 Hz)                               |
| <b>Dimensions</b>                |                                                |
| <b>Material</b>                  |                                                |
| (see "Technical Information")    | F.3C: 96 x 48 - Housing                        |
|                                  | F.4C: 144 x 48 - Housing                       |
| <b>Weight</b>                    |                                                |
| F.3C 3508                        | 300 g                                          |
| F.3C 3616                        | 300 g                                          |
| F.4C 3732                        | 400 g                                          |
| <b>Approvals</b>                 | CSA, UL                                        |

## Mode of Operation

8-, 16- or 32-channel status indicator with LED dot display.

The displays are used to monitor 1, 2 or 4 Dupline® channel groups.

The output dots turn on when the respective channels of the selected channel groups

are activated by transmitters. Each dot represents the status of one Dupline® channel. The lowest figure on the front plate indicates the lowest channel of the first channel group and the highest figure indicates the highest channel of the last channel group selected by the code module.

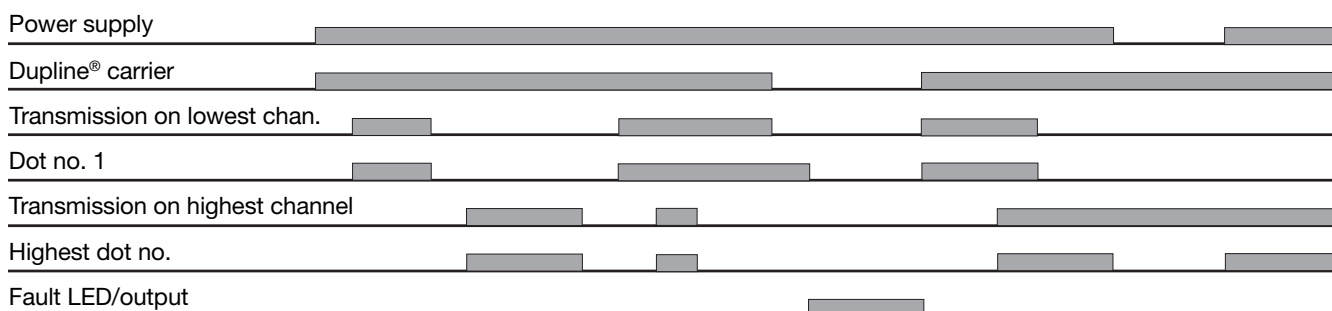
In case of Dupline® carrier loss the fault LED and the output (pins 2 & 5) turn on. Reaction time typically 1 s.

### Note:

- Upon loss of Dupline® carrier the channel dots of an LED display turn off.

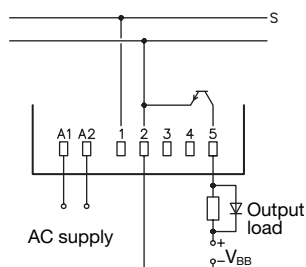
- If DC-supplied displays are used the length of the supply bus must not exceed 3 m in order to avoid disturbances unbalancing the Dupline®.

## Operation Diagram



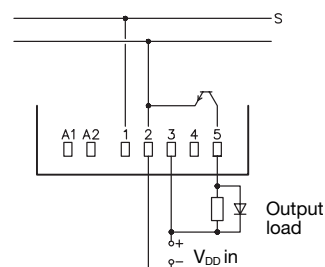
## Wiring Diagrams

### AC supply



S: signal wire

### DC supply



S: signal wire

## Additional Information

Scope of supply:

- 1 x Display F.C...
- 1 x Front plate for horizontal mounting
- 1 x Front plate for vertical mounting

## Accessories

For further information refer to "Accessories".



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