

**PFCS / PFCT**  
**DFCS / DFCT**  
**SFCS / SFCT**

**Microlectra bv.**

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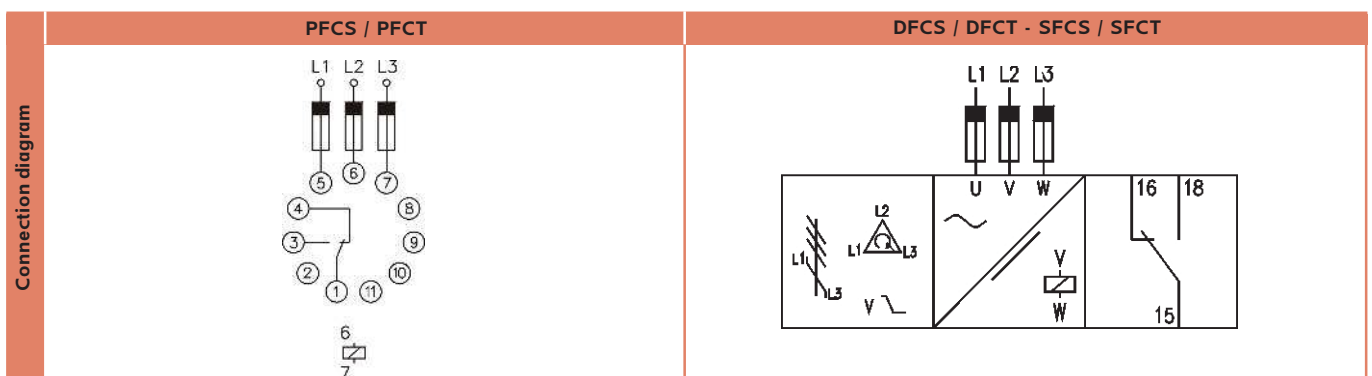
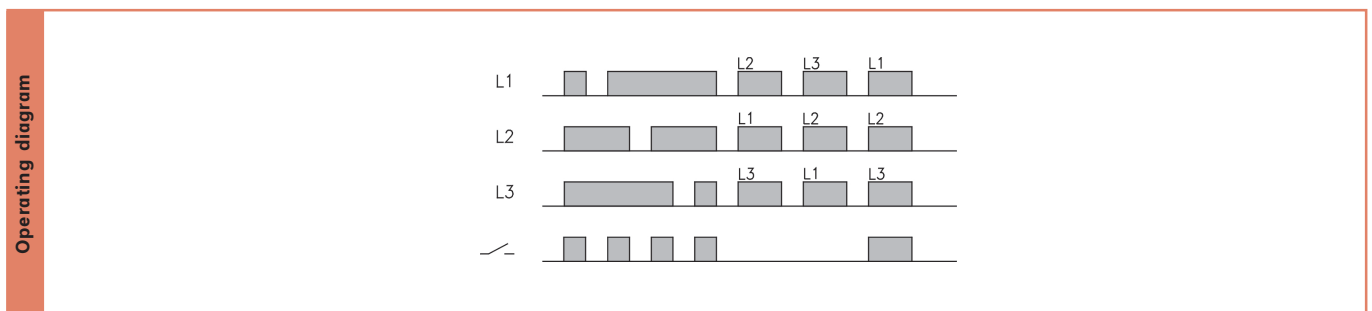


## PHASE RELAY

|                     |                                                                                                                                                                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Difference          | Control of the phase sequence and the phase failure.<br>Three-phase lines with neutral.                                                                                                                                                                                                                         |
| Connection          | The three-phase line is connected to terminals 5, 6 and 7 (PFCS/T) or L1, L2 and L3 (DFCS/T - SFCS/T) in the order indicated in the connection diagram.                                                                                                                                                         |
| Operating principle | While there is no anomaly the relay remains operated, and it releases for any of the following causes:<br>. If the phase sequence is not correct.<br>. If one or more phases are not present.<br>When a phase faults, if the return voltage is greater than 50 % of the nominal one, the relay will not detect. |
| Leds indication     | Power on: Green<br>Relay on: Red                                                                                                                                                                                                                                                                                |
| Delay on detection  | 2 Seg. approx., fix.                                                                                                                                                                                                                                                                                            |
| Detection by        | Voltage drop -50%                                                                                                                                                                                                                                                                                               |
| Delay on release    | No.                                                                                                                                                                                                                                                                                                             |

|           | HOUSING          | FUNCTION       | OUTPUT           | VOLTAGE         | RANGES               |
|-----------|------------------|----------------|------------------|-----------------|----------------------|
| Reference | P Plug-in        | FC Phase relay | S SPDT<br>T DPDT | 110 3 x 110 VAC | 50 50 Hz<br>60 60 Hz |
|           | D DIN Rail       |                |                  | 220 3 x 220 VAC |                      |
|           | S Flush mounting |                |                  | 400 3 x 400 VAC |                      |
|           |                  |                |                  | 440 3 x 440 VAC |                      |
|           |                  |                |                  | 500 3 x 500 VAC |                      |

To compose the reference, select one option of each column. Example: **PFCS 110 50**



|                       |                              | PFCS                 |                                   | PFCT                         |                              | DFCS                         |                                   | DFCT                         |              | SFCS                 |                                   | SFCT |  |  |
|-----------------------|------------------------------|----------------------|-----------------------------------|------------------------------|------------------------------|------------------------------|-----------------------------------|------------------------------|--------------|----------------------|-----------------------------------|------|--|--|
|                       |                              |                      |                                   |                              |                              |                              |                                   |                              |              |                      |                                   |      |  |  |
| Output relays         | Resistive load               | AC                   | 10 A / 250 V                      | 8 A / 250 V                  | 10 A / 250 V                 | 8 A / 250 V                  | 10 A / 250 V                      | 8 A / 250 V                  | 10 A / 250 V | 8 A / 250 V          |                                   |      |  |  |
|                       |                              | DC                   | 0,4 A / 200 V<br>10 A / 24 V      | 0,25 A / 200 V<br>8 A / 24 V | 0,4 A / 200 V<br>10 A / 24 V | 0,25 A / 200 V<br>8 A / 24 V | 0,4 A / 200 V<br>10 A / 24 V      | 0,25 A / 200 V<br>8 A / 24 V |              |                      |                                   |      |  |  |
|                       | Inductive load               | AC                   | 5 A / 250 V                       | 2,5 A / 250 V                | 5 A / 250 V                  | 2,5 A / 250 V                | 5 A / 250 V                       | 2,5 A / 250 V                | 5 A / 250 V  | 2,5 A / 250 V        |                                   |      |  |  |
|                       |                              | DC                   | 5 A / 24 V                        | 4 A / 24 V                   | 5 A / 24 V                   | 4 A / 24 V                   | 5 A / 24 V                        | 4 A / 24 V                   | 5 A / 24 V   | 4 A / 24 V           |                                   |      |  |  |
|                       | Mechanical life              |                      | > 30 x 10 <sup>6</sup> operations |                              |                              |                              | > 30 x 10 <sup>6</sup> operations |                              |              |                      | > 30 x 10 <sup>6</sup> operations |      |  |  |
|                       | Max. switching rate, mech.   |                      | 72.000 operations / hour          |                              |                              |                              | 72.000 operations / hour          |                              |              |                      | 72.000 operations / hour          |      |  |  |
|                       | Electrical life at full load |                      | 360 operations / hour             |                              |                              |                              | 360 operations / hour             |                              |              |                      | 360 operations / hour             |      |  |  |
|                       | Contact material             |                      | AgNi 90/10                        |                              |                              |                              | AgNi 90/10                        |                              |              |                      | AgNi 90/10                        |      |  |  |
|                       | Maximum voltage              |                      | 440 VAC                           |                              |                              |                              | 440 VAC                           |                              |              |                      | 440 VAC                           |      |  |  |
|                       | Operating voltage            |                      | 250 VAC                           |                              |                              |                              | 250 VAC                           |                              |              |                      | 250 VAC                           |      |  |  |
|                       | Volt. between changeovers    |                      | 2500 VAC                          |                              |                              |                              | 2500 VAC                          |                              |              |                      | 2500 VAC                          |      |  |  |
|                       | Voltage between contacts     |                      | 1000 VAC                          |                              |                              |                              | 1000 VAC                          |                              |              |                      | 1000 VAC                          |      |  |  |
|                       | Voltage coil/contact         |                      | 5000 VAC                          |                              |                              |                              | 5000 VAC                          |                              |              |                      | 5000 VAC                          |      |  |  |
| Distance coil/contact |                              | 10 mm                |                                   |                              |                              | 10 mm                        |                                   |                              |              | 10 mm                |                                   |      |  |  |
| Isolation resistance  |                              | > 10 <sup>4</sup> MΩ |                                   |                              |                              | > 10 <sup>4</sup> MΩ         |                                   |                              |              | > 10 <sup>4</sup> MΩ |                                   |      |  |  |

| Supply | AC         |                 |
|--------|------------|-----------------|
|        | PFCS/PFCT  | DFCS/T - SFCS/T |
|        |            |                 |
|        | Yes        |                 |
|        | 50 / 60 Hz |                 |
|        | ±10% -15%  |                 |
| -      |            |                 |
| -      |            |                 |

| Constructive and enviromental data |                                                                      | PFCS / PFCT                                    | DFCS / DFCT          | SFCS / SFCT          |
|------------------------------------|----------------------------------------------------------------------|------------------------------------------------|----------------------|----------------------|
|                                    | Voltage phase-neutral                                                | 300 V                                          | 300 V                | 300 V                |
|                                    | Overvoltage category                                                 | III                                            | III                  | III                  |
|                                    | Rated impulse voltage                                                | 4 kV                                           | 4 kV                 | 4 kV                 |
|                                    | Pollution degree                                                     | 2                                              | 3                    | 2                    |
|                                    | Protection                                                           | IP 20 B                                        | IP 20                | IP 20                |
|                                    | Approximate weight                                                   | 250 g                                          | 280 g                | 270 g                |
|                                    | Storage temperature                                                  | -50°C +85°C                                    | -50°C +85°C          | -50°C +85°C          |
|                                    | Operating temperature                                                | -20°C +50°C                                    | -20°C +50°C          | -20°C +50°C          |
|                                    | Humidity                                                             | 30~85% HR                                      | 30~85% HR            | 30~85% HR            |
|                                    | Housing                                                              | Cycoloy – Light grey                           | Cycoloy – Light grey | Cycoloy – Light grey |
|                                    | Socket                                                               | Lexan – Light grey                             | –                    | –                    |
|                                    | Visor leds                                                           | Lexan – Transparent                            | Lexan – Transparent  | Lexan – Transparent  |
|                                    | Button, terminal block, clip                                         | Technyl – Dark blue                            | Technyl – Dark blue  | Technyl – Dark blue  |
|                                    | Pins of the socket                                                   | Nickel brass                                   | –                    | –                    |
|                                    | Pins of the terminal block                                           | –                                              | Brass                | Brass                |
|                                    | Approvals                                                            | Designed and manufactured under EEC standards. |                      |                      |
|                                    | Electromagnetic compatibility , directives 89/366/EEC and 92/31/EEC. |                                                |                      |                      |
|                                    | Electric safety, directive 73/23/EEC.                                |                                                |                      |                      |
|                                    | Plastics: UL 91 V0                                                   |                                                |                      |                      |

| Dimensions | PFCS / PFCT | DFCS / DFCT | SFCS / SFCT |
|------------|-------------|-------------|-------------|
|            |             |             |             |