



## BES212, BES212/N Bus Expansion Modules

With the bus expansion module BES212 and BES212/N a »high speed« connection up to 3 m away is possible with less than 1.5  $\mu$ s access time to distributed I/O units. Up to six distributed substations can be directly interconnected in a daisy chain topology. Each substation can in turn handle up to 15 M1 standard modules.

The wiring using RJ45 connectors is one advantage of this new technology. Thus wiring is significantly facilitated. A special protocol is not required to use the I/Os with the bus expansion. The user can access these modules directly: As if they were local.

The bus expansion module BES212/N with integrated 24 V power supply provides power for the substation.

- Bus expansion slave module with 2 interfaces
- Bus expansion slave module optionally with integrated power supply
- Up to 6 local substations
- Minimal signal delay
- Distances of up to 3 m between 2 stations
- Integrated watchdog on slave modules

| Item     | Item-No.    |
|----------|-------------|
| BES212   | 00012847-00 |
| BES212/N | 00012848-00 |

| <b>BES212, BES212/N</b>                   |  |
|---|--|
| <b>Bus expansion interface</b>            |  |
| Line length                               | 3 m  |
| Transmission medium                       | CAT7 special cable                                 |
| Max. number of stations                   | 6 (BES212/N)                                       |
| <b>Integrated power supply (optional)</b> |  |
| Voltage range                             | 18 to 34 VDC                                       |
| Current consumption                       | Max. 1.2 A at 24 V                                 |
| Nominal power                             | 17 W   |
| Output current at +5 V                    | 2 A  |
| Output current at +15 V                   | 250 mA   |
| Output current at -15 V                   | 200 mA   |
| Reverse polarity protection               | Yes  |
| <b>Approvals / Certificates</b>           |  |
| General                                   | CE, cULus, CCC                                     |
| <b>Ambient conditions</b>                 |  |
| Operating temperature                     | -30 to +60 °C                                      |
| Rel. humidity operation                   | 5 to 95 % without condensation                     |
| Storage temperature                       | -40 to +85 °C                                      |
| Rel. humidity storage                     | 5 to 95 % without condensation                     |
| Pollution degree                          | 2 (without condensation; according to IEC 60664-1) |

| <b>Order Codes</b> |             |  |
|--------------------|-------------|--|
| Item               | Item No.    | Description  |
| BES212             | 00012847-00 | Bus expansion slave module with 2 interfaces (up to 6 stations)                                  |
| BES212 / N         | 00012848-00 | Bus expansion slave module with 2 interfaces and integrated power supply 17 W (up to 6 stations) |
| <b>Accessories</b> |             |  |
| KZ 51/03 B         | 00012052-00 | Terminal 03-pins grid 5,08; cage clamp terminal with labeling strip                              |
| K-BE211/0.5 m      | 00012931-00 | Cable bus expansion with RJ45 connector with 0.5 meter, converted                                |
| K-BE211/1.0 m      | 00012931-01 | Cable bus expansion with RJ45 connector with 1.0 meter, converted                                |
| K-BE211/2.0 m      | 00012931-03 | Cable bus expansion with RJ45 connector with 2.0 meter, converted                                |
| K-BE211/3.0 m      | 00012931-02 | Cable bus expansion with RJ45 connector with 3.0 meter, converted                                |