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Especialistas en Automatización

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## Interface converters - FL COMSERVER PRO 232/422/485 - 2313465

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Second generation FL COMSERVER PRO... (PROGRAMMABLE), freely programmable in BASIC programming language, for creation of custom solutions to implement a serial RS-232/422/485 interface on the Ethernet. Incl. examples, additional software, and user documentation

### Why buy this product

- Configuration via web-based management
- All connections can be plugged in using a COMBICON screw terminal block
- Free programmable in BASIC programming language
- Creation of own visualization on web server
- Software for virtual COM ports supplied as standard



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 STK   |
| GTIN         | <br>4 046356 451338 |

### Technical data

#### Note

|                         |   |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

#### Dimensions

|        |         |
|--------|---------|
| Width  | 22.5 mm |
| Height | 99 mm   |
| Depth  | 116 mm  |

#### Ambient conditions

|  |                                     |
|--|-------------------------------------|
| Ambient temperature (operation)          | -25 °C ... 60 °C                    |
|  | -20 °C ... 60 °C (With UL approval) |
| Ambient temperature (storage/transport)  | -25 °C ... 70 °C                    |
| Permissible humidity (operation)         | 10 % ... 95 % (non-condensing)      |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing)       |

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## Technical data

### Ambient conditions

|                      |  |
|----------------------|--|
| Altitude             | 5000 m (For restrictions see manufacturer's declaration) |
| Degree of protection | IP20   |
| Noise immunity       | EN 61000-6-2:2005  |

### General

|  |  |
|--|--|
| Electrical isolation                       | DIN EN 50178 (VCC // Ethernet // Serial)   |
| Test voltage data interface/data interface | 1.5 kV <sub>rms</sub> (50 Hz, 1 min.)  |
| Test voltage data interface/power supply   | 1.5 kV <sub>rms</sub>  |
|  | 1.5 kV <sub>rms</sub> (50 Hz, 1 min.)  |
| Standards/regulations                      | EN 50121-4   |
| Electromagnetic compatibility              | Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016) |
| Noise emission                             | EN 61000-6-4   |
| Net weight                                 | 194.4 g  |
| Housing material                           | PA 6.6-FR  |
| Color                                      | green  |
| MTBF                                       | 666 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))     |
|  | 179 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |
| Conformance                                | CE-compliant   |
| ATEX                                       | # II 3 G Ex nA IIC T4 Gc X (Please follow the special installation instructions in the documentation!)   |
| UL, USA                                    | Class I, Zone 2, AEx nA IIC T5   |
| UL, USA / Canada                           | 508 listed   |
|  | Class I, Div. 2, Groups A, B, C, D   |
| UL, Canada                                 | Class I, zone 2, Ex nA IIC T5 Gc X   |

### Power supply

|                             |   |
|-----------------------------|---|
| Supply voltage range        | 19.2 V AC/DC ... 28.8 V AC/DC (via pluggable COMBICON screw terminal block)                                   |
|                             | 22.8 V DC ... 25.2 V DC (as an alternative or redundant, via backplane bus contact and system current supply) |
| Typical current consumption | 100 mA (24 V DC)  |

### Serial interface

|                           |   |
|---------------------------|---|
| Interface 1               | Ethernet interface, 10/100BASE-T(X) in acc. with IEEE 802.3u              |
| Interface                 | Ethernet  |
| Connection method         | RJ45 socket, shielded   |
| Transmission length       | ≤ 100 m (shielded twisted pair)   |
| Protocols supported       | TCP/IP, UDP   |
| Auxiliary protocols       | ARP, DHCP, BOOTP, SNMP, RIP, RARP, HTTP, TFTP                             |
| Serial transmission speed | 10/100 Mbps, auto negotiation   |
| Interface 2               | V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1 |

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## Technical data

### Serial interface

|                             |  |
|-----------------------------|--|
| Interface                   | RS-232   |
| Connection method           | D-SUB-9 plug   |
| File format/coding          | UART/NRZ: 7/8 Bit Data, 1/2 Bit Stopp, None/Even/Odd Parity                              |
| Pin assignment              | DTE/DCE switchover via web-based management  |
| Data flow control/protocols | Software handshake, Xon/Xoff or hardware handshake RTS/CTS                               |
| Serial transmission speed   | 0.3; 0.6; 1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 38.4; 57.6; 115.2; 187.5; 230.4 kbps            |
| Interface 3                 | RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1                       |
| Interface                   | RS-422   |
| Connection method           | Plug-in/screw connection via COMBICON  |
| File format/coding          | Serial asynchronous UART/NRZ, 7/8 data, 1/2 stop, 1 parity, 10/11-bit character length   |
| Transmission length         | ≤ 1200 m   |
| Termination resistor        | 390 Ω (configurable)   |
|                             | 180 Ω  |
|                             | 390 Ω  |
| Data flow control/protocols | Automatic control  |
| Serial transmission speed   | 0.3; 0.6; 1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 38.4; 57.6; 115.2; 187.5; 230.4; 500; 1000 kbps |
| Interface 4                 | RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire                    |
| Interface                   | RS-485   |
| Connection method           | Plug-in/screw connection via COMBICON  |
| File format/coding          | Serial asynchronous UART/NRZ, 7/8 data, 1/2 stop, 1 parity, 10/11-bit character length   |
| Termination resistor        | 390 Ω (configurable)   |
|                             | 180 Ω  |
|                             | 390 Ω (configurable)   |
| Data flow control/protocols | Automatic control  |
| Serial transmission speed   | 0.3; 0.6; 1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 38.4; 57.6; 115.2; 187.5; 230.4; 500; 1000 kbps |

### Function

|                                  |  |
|----------------------------------|--|
| Management                       | Web-based management, SNMP, serial emergency access  |
| Status and diagnostic indicators | LEDs: UL (logic voltage), TD + RD (data activity serial), FD (full duplex), 100 (100 Mbps mode), Link (Ethernet), Activity (Ethernet), ERR (error) |

### Standards and Regulations

|                               |  |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016) |
| Type of test                  | Free fall in acc. with IEC 60068-2-32  |
| Test result                   | 1 m  |
| Type of test                  | Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6   |
| Test result                   | 5g, 10-150 Hz, 2.5 h, in XYZ direction   |
| Type of test                  | Shock in acc. with EN 60068-2-27/IEC 60068-2-27  |
| Test result                   | 15g, 11 ms period, half-sine shock pulse   |

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## Technical data

### Standards and Regulations

|   |  |
|---|--|
| Type of test  | Shock in acc. with EN 60068-2-27/IEC 60068-2-27                |
| Test result   | 30g, 11 ms period, half-sine shock pulse                       |
| Noise emission  | EN 61000-6-4   |
| Noise immunity  | EN 61000-6-2:2005  |
| Free from substances that could impair the application of coating | according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard |
| Standards/regulations   | EN 50121-4   |
| Conformance   | CE-compliant   |
| ATEX  | # II 3 G Ex nA IIC T4 Gc X                                     |
| UL, USA   | Class I, Zone 2, AEx nA IIC T5                                 |
| UL, USA / Canada  | 508 listed   |
|   | Class I, Div. 2, Groups A, B, C, D                             |
| UL, Canada  | Class I, zone 2, Ex nA IIC T5 Gc X                             |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27250504 |
| eCl@ss 4.1 | 27250504 |
| eCl@ss 5.0 | 27250504 |
| eCl@ss 5.1 | 27250504 |
| eCl@ss 6.0 | 27250504 |
| eCl@ss 7.0 | 27250504 |
| eCl@ss 8.0 | 19179290 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000310 |
| ETIM 3.0 | EC000310 |
| ETIM 4.0 | EC000310 |
| ETIM 5.0 | EC000310 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211506 |
| UNSPSC 7.0901 | 39121008 |
| UNSPSC 11     | 39121008 |
| UNSPSC 12.01  | 39121008 |
| UNSPSC 13.2   | 39121008 |

## Approvals

### Approvals

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## Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

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Ex Approvals


ATEX / UL Listed / cUL Listed / cULus Listed

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Approvals submitted

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## Approval details

UL Listed 

cUL Listed 

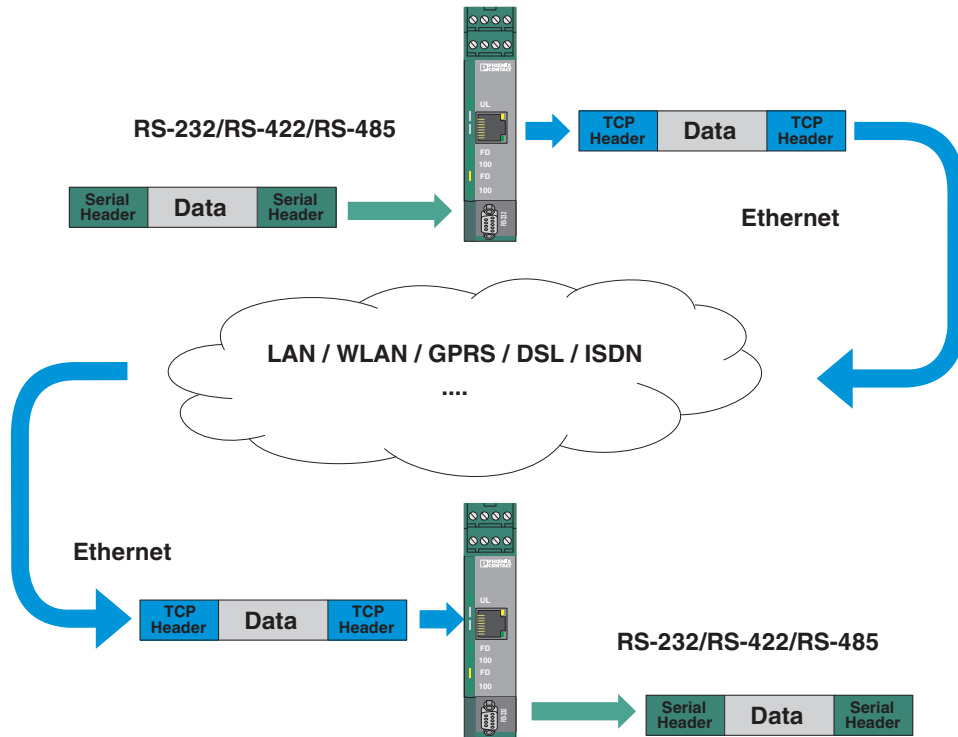
EAC

cULus Listed 

## Drawings

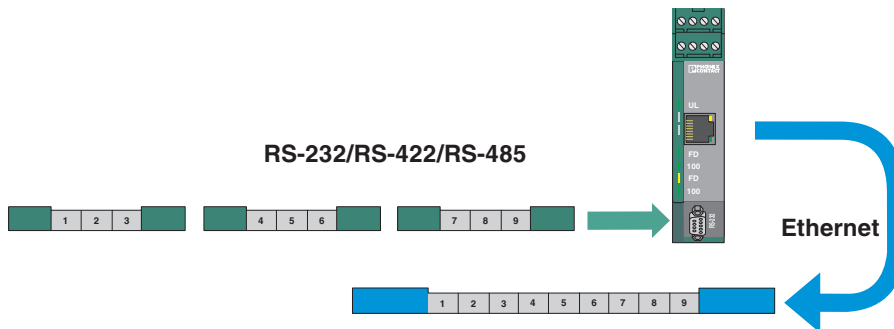
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Application drawing



Serial data transmission via Ethernet

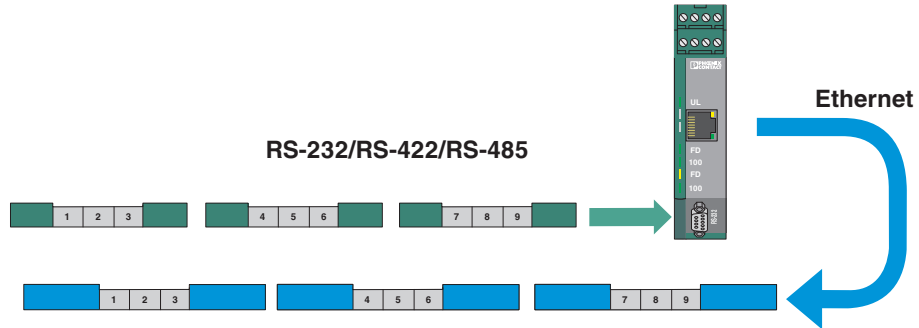
Application drawing



Large value: "Idle Force Timeout Characters"

# Interface converters - FL COMSERVER PRO 232/422/485 - 2313465

Application drawing



Small value: "Idle Force Timeout Characters"

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