

EtherCat



since 1971 - the power to control





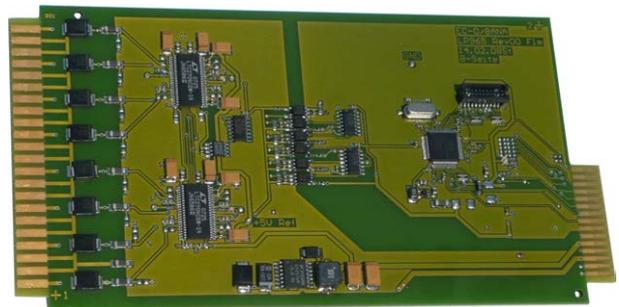
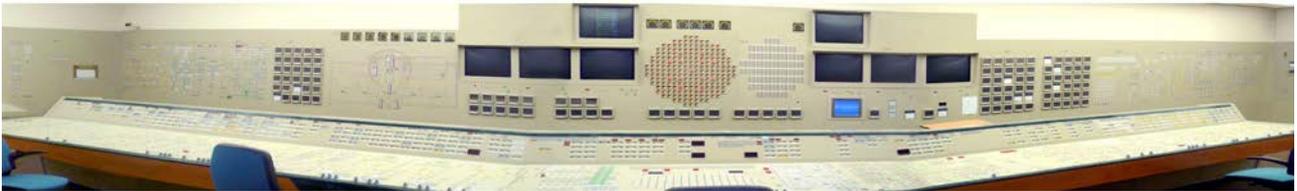
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STÖRMELDESYSTEME



A blink of the eye

...and all data of a nuclear power plant are recorded!





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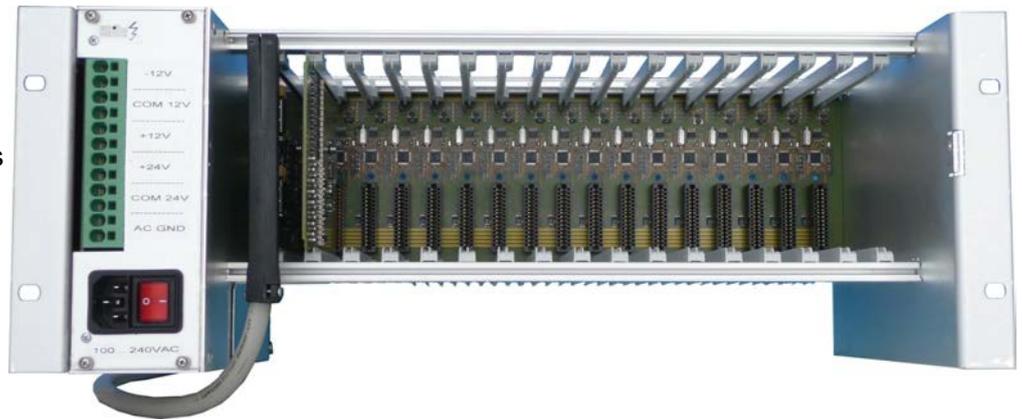
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19" EtherCAT-Mainboard for analog and digital I/O plug-in cards

Type designation:

EC-Mainboard 1/16

Backplane 3U 84M for
1 power supply
+16 IN/OUT plug-in cards
in EtherCAT technology



System features:

- Mainboard in 19" rack 3U 210mm depth
- PSC-Version 19" rack 4U 270mm depth
- 1 slot for power supply 12M
- 1 slot 4M for front Ethernet ports
- 16 slots 4M for direct IN/OUT plug-in cards inserted
- Back side 2 Ethernet RJ-45 jacks IN/OUT
- EMC-values: UNITRO-Standard in accordance with EN 61000

Technical data:

1. Type of construction:
19" rack 3U 84M 210mm depth
PSC-Version: 19" 4U 84M 270mm
depth for 4U power supply and
1U cable jumpering
2. Weight:
approx 3000g (without plug-in cards)
3. Climatic conditions:
in accordance with UNITRO-Standard
4. Supply voltage:
via power supply card 230V AC
5. Bus connection:
each one 10/100 Ethernet jack on the
rear, bus input and output.
Alternatively, front side via separate
4M plug-in card.
6. Integrated system components:
1x Beckhoff BGA / ASIC as EtherCAT Slave Con-
troller (ESC) for the physical implementation of the
Ethernet ports on the internal E-Bus.
The 16 card slots each have a separate ESC with
a serial peripheral interface (SPI) for "on-the-fly"
analysis of the Ethernet frame is received and
control the IN/OUT expansion cards.
7. Slots:
 - 1x slot 12M with 32-pin D female connector
shielded, for power supply
 - 1x slot with two 4Mx 15-pin 2.54mm female
connector for direct plug-in card inserted
 - 1x slot with 4M front 10/100Mbps
RJ45 Ethernet jacks
 - 16x slots with 2x 15 pin. 2.54mm female
connectors plugged directly for IN/OUT
expansion cards
8. Leakage distances and clearances:
in accordance with UNITRO-Standard
9. EMC, immunity of interference:
UNITRO-Standard, in accordance with EN 61000



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19" EtherCAT plug-in card with 16 digital IN/OUT

Type designation:

EC-16/16

3U plug-in card with 16 digital inputs and outputs, plugged directly for EtherCAT technology



System features:

- 3U plug-in card with terminal lugs for plugged directly:
- 16 inputs 24V with LED display
- 16 outputs 24V short-circuit with LED display
- EtherCAT SPI interface
- EMC-values: UNITRO-Standard in accordance with EN 61000

front: 2x 28-pin
rear: 2x 15-pin

Technical data:

1. Type of construction:
plug-in card 4TM 100 x 190mm
plugged directly
2. Weight:
approx 75g
3. Climatic conditions:
in accordance with UNITRO-Standard
4. Connection:
front: 2x28-pin 3.18mm gold-plated
terminal lugs for inputs and outputs
rear: 2x15-pin 2.54mm gold-plated ter-
minal lugs for supply voltage and SPI
interface
5. Inputs:
16 inputs 24V 6mA input protection and
LED display
6. Outputs:
16 outputs +24V 20mA smart power high-side
switch short-circuit with LED display
7. Insulation voltage separation:
2000V_{rms} input and outputs to the system
8. Processor:
AMR7/32bit processor with SPI interface and ports
for digital and analog inputs and outputs
9. Leakage distances and clearances:
in accordance with UNITRO-Standard
10. EMC, immunity of interference:
UNITRO-Standard, in accordance with EN 61000



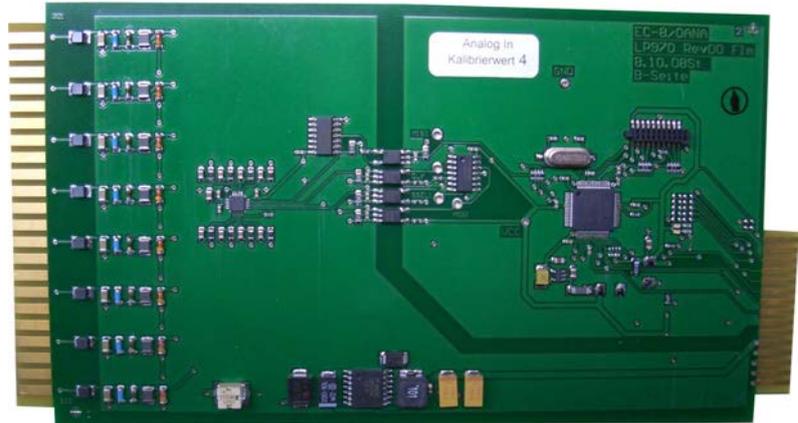
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19" EtherCAT plug-in card with 8 analog inputs

Type designation:

EC-8/0 ana

3U plug-in card with 8 analog inputs, plugged directly for EtherCAT technology



System features:

- 3U plug-in card with terminal lugs for plugged directly:
- 8 analog inputs 0-20mA, 0-10V
- Resolution: 14bit
- Accuracy: $\pm 0,05\%$
- EtherCAT SPI interface
- EMC-values: UNITRO-Standard in accordance with EN 61000

front: 2x 22-pin
rear: 2x 15-pin

Technical data:

1. Type of construction:
plug-in card 4M 100 x 190mm
plugged directly
2. Weight:
approx 75g
3. Climatic conditions:
in accordance with UNITRO-Standard
4. Connection:
front: 2x22-pin 3.18mm gold-plated
terminal lugs for inputs
rear: 2x15-pin 2.54mm gold-plated ter-
minal lugs for supply voltage and SPI
interface
5. Inputs:
8 analog inputs 0-20mA, 0-10V
6. Resolution:
14bit
7. Accuracy:
 $\pm 0,05\%$
8. Input resistance:
0-20mA: 56 Ω
0-10V: 100k Ω
9. Insulation voltage separation:
D/A converter for digital control
2000V_{rms}
10. Processor:
AMR7/32bit processor with SPI interface and ports
for digital and analog inputs and outputs
11. Leakage distances and clearances:
in accordance with UNITRO-Standard
12. EMC, immunity of interference:
UNITRO-Standard, in accordance with EN 61000



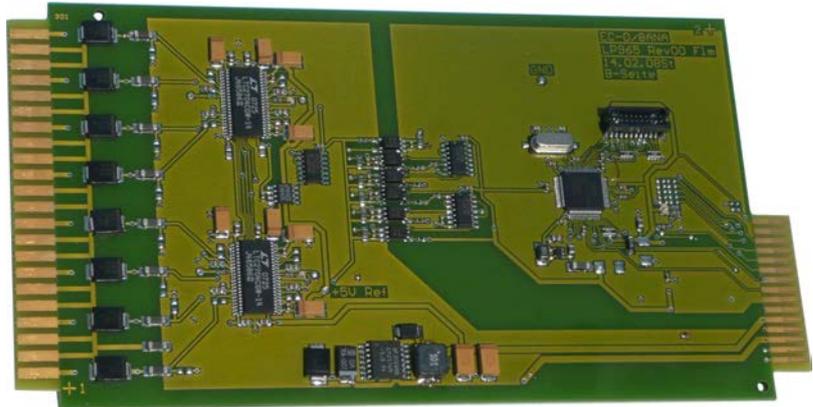
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19" EtherCAT plug-in card with 8 analog outputs

Type designation:

EC-0/8 ana

3U plug-in card with 8 analog outputs, plugged directly for EtherCAT technology



System features:

- 3U plug-in card with terminal lugs for plugged directly:
- 8 analog outputs 0-10V
- Resolution: 14bit
- Accuracy: $\pm 0,03\%$
- EtherCAT SPI interface
- EMC-values: UNITRO-Standard in accordance with EN 61000

front: 2x 22-pin
rear: 2x 15-pin

Technical data:

1. Type of construction:
plug-in card 4M 100 x 190mm
plugged directly
2. Weight:
approx 75g
3. Climatic conditions:
in accordance with UNITRO-Standard
4. Connection:
front: 2x22-pin 3.18mm gold-plated
terminal lugs for outputs
rear: 2x15-pin 2.54mm gold-plated ter-
minal lugs for supply voltage and SPI
interface
5. Outputs:
8 analog outputs 0-10V
6. Resolution:
14bit
7. Accuracy:
 $\pm 0,03\%$
8. Input resistance:
>500 Ω
9. Insulation voltage separation:
D/A converter for digital control
2000V_{rms}
10. Processor:
AMR7/32bit processor with SPI interface and ports
for digital and analog inputs and outputs
11. Leakage distances and clearances:
in accordance with UNITRO-Standard
12. EMC, immunity of interference:
UNITRO-Standard, in accordance with EN 61000



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