



ricos FLEX
I/O fieldbus systems

Modular flexibility





I/O fieldbus system

Economical, compact and modular

In **ricos** FLEX, Wieland Electric is offering a continuous fieldbus concept for the interchange of data between controller and field periphery. The modular I/O nodes are installed decentrally, close to the machine, and networked via the fieldbus. A broad range of I/O modules process the various actuator/sensor signals. Diverse diagnostic functions permit a significant reduction in machine standstill times.



Advantages:

- Cost-efficiency through a highly modular design
- 2 to 8-channel modules
- Narrow module width of 12,9 mm
- Up to 64 modules can be connected to each bus coupler
- Spring tension connection terminals
- Very fast reaction time
- Individual channel inscription



High-performance rear wall bus

- 48 Mbit/s transmission speed
- Very fast reaction time of up to 20 μ s
- One connection module for all application modules

Easy to assemble/service

- Simplest assembly thanks to secure sliding mechanism
- Module protection through coding
- Service-friendly combination of connection module and application module
- Recommendation: top hat rail mounting (TS 35 x 15)



Space-saving connection technology

- Stepped wiring level with spring force terminal technology
- Simple module replacement with permanent wiring
- High modularity with 2, 4 and 8-channel modules



Clearly arranged status and diagnostic displays with direct channel assignment for fast troubleshooting.

Inscription strips for individual marking of each channel.



ricos FLEX

Can be combined and used for any application.

ricos FLEX is a module and extremely compact I/O system. It can be combined and used with any PLC and any IPC.

ricos FLEX combines high functionality with an intelligent housing concept in an extremely compact design.

ricos FLEX is highly compact and precisely, matched, bit by bit, to the requirements of the application concerned.

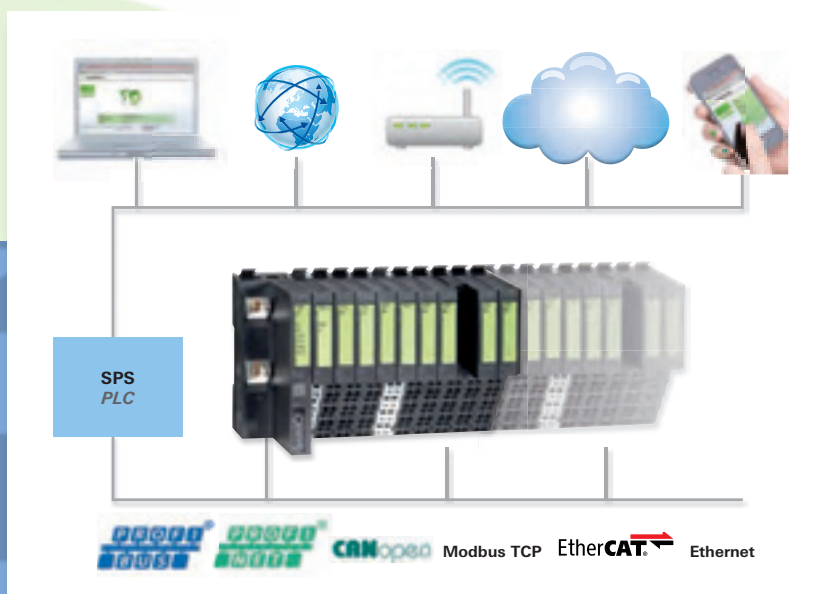
All bus couplers support up to 64 user modules. One module unit comprises a connection module and an electronic module, which are connected by means of a slide and click mechanism.

The connection module combines terminals, mounting for the electronic module and the **ricos FLEX** rear wall bus connector.

So for servicing, only the electronic module is replaced by simply pulling out the connection module – the wiring and mounting on the 25 mm DIN profile rail remain intact.

The spring force terminals arranged step-wise on the connection module permit fast, clearly arranged and safe wiring.

The integrated status LEDs and the inscription strips on the front of the electronic modules guarantee channel-specific, clear assignment and readability of the channel statuses.



Bus coupler

ricos FLEX BC DP

- Bus coupler Profibus DP-V1 Slave
- 244 byte input and 244 byte output data
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC DP	83.036.1000.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Number of subscribers	125
Subscriber address	1 – 125
Baud rate	9.6 kbit/s - 12 Mbit/s
Address range for inputs	max. 244 bytes
Address range for outputs	max. 244 bytes
Fieldbus connection	9-pole sub-D socket
Fieldbus	Profibus DP to EN50170
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	CE

ricos FLEX BC CANopen

- Bus coupler CANopen Slave
- 16 RX and 16 TX PDOs
- 2 SDOs
- PDO linking
- PDO Mapping: fixed
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC CANopen	83.036.1020.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Number of subscribers	127
Subscriber address	1 – 127
Baud rate	10 kBaud - 1 Mbaud
Address range for inputs	max. 128 bytes
Address range for outputs	max. 128 bytes
Fieldbus connection	9-pole sub-D plug
Fieldbus	CANopen
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	CE

ricos FLEX BC MODBUS

- Bus coupler MODBUS TCP Slave
- I/O configuration via the fieldbus
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC MODBUS	83.036.1040.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Fieldbus connection	RJ45 / Ethernet 10/100 Mbit
Fieldbus	MODBUS-TCP
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	CE

Bus coupler

ricos FLEX BC PROFINET

- Bus coupler PROFINET I/O Slave
- Transmission rate 100 Mbit/s
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC PROFINET	83.036.1010.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Baud rate	100 Mbit/s
Address range for inputs	512 bytes
Address range for outputs	512 bytes
Fieldbus connection	2 x RJ45 / Ethernet 100 MBit
Fieldbus	PROFINET-IO
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE

ricos FLEX BC EtherNet/IP

- Bus coupler EtherNet/IP
- 1 KB input and 1 KB output data
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC EtherNet/IP	83.036.1050.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Baud rate	10/100 Mbit
Address range for inputs	max. 1KB
Address range for outputs	max. 1KB
Fieldbus connection	RJ45
Fieldbus	EtherNet/IP
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE

ricos FLEX BC EtherCAT

- Bus coupler EtherCAT
- 512 Byte input and 512 Byte output data
- 64 assemblies per assembly carrier



Type	Part No.
ricos FLEX BC EtherCAT	83.036.1060.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current	0.95 A
Number of participants	max. 65535
Baud rate	100 Mbit/s
Address range for inputs	max. 512 Byte
Address range for outputs	max. 512 Byte
Fieldbus connection	2 x RJ45
Fieldbus	EtherCAT
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	48.5 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	155 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE



Expansion modules

ricos FLEX potential distributor

- Potential distributor
- For distributing 24 V DC and 0 V potentials



Type	Part No.
ricos FLEX PV 8xDC24V	83.036.0000.0
ricos FLEX PV 8xDC0V	83.036.0010.0
ricos FLEX PV 4xDC24V 4xDC0V	83.036.0020.0
Technical data	
Number of terminals	8 x 24 V DC 8 x 0 V DC 4 x 24 VDC; 4 x 0 V DC
Max. terminal voltage	30 V DC 0 V DC 30 V DC
Max. terminal current	10 A
Max. total current per module	10 A
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 52.5
Mounting method	Top hat rail mounting
Weight	50 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	

ricos FLEX power module

- Potential distributor
- Supply voltage 24 V DC, 10 A
- Reverse polarity protection
- Overvoltage protection



Type	Part No.
ricos FLEX PW DC 24V	83.036.0030.0
ricos FLEX PW 24V/5V	83.036.0040.0
Technical data	
Input voltage	20.4...28.8 V DC
Output voltage	24 V
Output current	10 A 4 A
Reverse polarity protection	yes
Overvoltage protection	36 V
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	60 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	

ricos FLEX digital input module

- Digital input module
- 2 / 4 / 8 inputs



Type	Part No.
ricos FLEX 2xDI DC24V	83.036.2100.0
ricos FLEX 4xDI DC24V	83.036.2200.0
ricos FLEX 8xDI DC24V	83.036.2300.0
Technical data	
Input voltage	20.4...28.8 V DC
Input current with signal 1	3 mA
Number of inputs	2 4 8
Switching level "0"	0...5 V DC
Switching level "1"	15...28,8 V DC
Channel status (high)	LED (green)
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	60 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	

Expansion modules

ricos FLEX digital output module

- Digital output module
- 2 / 4 / 8 outputs
- 2 relay outputs 30 V DC / 230 V AC; 3 A



Type	Part No.
ricos FLEX 2xDO DC24V 0,5A	83.036.3100.0
ricos FLEX 2xDO DC24V 2A	83.036.3110.0
ricos FLEX 2xDO DC30V 3A RELAY	83.036.3150.0
ricos FLEX 4xDO DC24V 0,5A	83.036.3200.0
ricos FLEX 4xDO DC24V 2A	83.036.3210.0
ricos FLEX 8xDO DC24V 0,5A	83.036.3300.0

Technical data	
Output voltage	20,4...28,8 V DC 30 V DC/ 230 V AC (Relay)
Output current with signal 1	0,5 A (2/4/8 DO), 2 A (2/4 DO), 3 A (Relay)
Number of outputs	2 2 2 x RELAY 4 4 8
Output protection	Short circuit and overload protection
Channel status (high)	LED (green)
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	60 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE

ricos FLEX analog input module

- Analog input module
- 4 inputs, 12 bit
- 4 wire, isolated



Type	Part No.
ricos FLEX 4xAI 12BIT 0...10V	83.036.4200.0
ricos FLEX 4xAI 12BIT 0(4)...20mA	83.036.4240.0
ricos FLEX 4xAI 12BIT -10V...+10V	83.036.4210.0
ricos FLEX 4xAI 16BIT R ,RTD	83.036.4261.0

Technical data	
Number of inputs	4 4 4 4
Measuring ranges	0...10 V 0(4)...20 mA -10 V...+10 V RTD,PT100
Auflösung in Bit	12 12 12 16
Conversion time	1.15 ms, all channels
Module status	LED (green)
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	60 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE

ricos FLEX analog output module

- Analog output module
- 4 outputs, 12 bit



Type	Part No.
ricos FLEX 4xAO 12BIT 0...10V	83.036.5200.0
ricos FLEX 4xAO 12BIT 0(4)...20mA	83.036.5220.0
ricos FLEX 4xAO 12BIT -10V...+10V	83.036.5210.0

Technical data	
Number of outputs	4 4 4
Measuring ranges	0...10 V 0(4)...20 mA -10 V...+10 V
Resolution in bits	12
Conversion time	2 ms, all channels
Module status	LED (green)
Temperature range	0 ... +60 °C
Dimensions WxHxD (mm)	12.9 x 109 x 76.5
Mounting method	Top hat rail mounting
Weight	60 g
Terminal type	Spring force terminal
Terminal cross-section	0.08 – 1.5 mm ²
Approvals	• CE



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Industrial technology

Solutions for the control cabinet

- DIN rail terminal blocks
 - Screw, tension spring or push-in connection technology
 - Wire cross sections up to 240 mm²
 - Numerous special functions
 - Software solutions interfacing to CAE systems
- Safety
 - Safe signal acquisition
 - Safety switching devices
 - Modular safety modules
 - Compact safety controllers
 - Application consulting and training
- Network engineering and fieldbus systems
 - Remote maintenance via VPN industrial router and VPN service portal
 - Industrial Ethernet switches
 - PLC and I/O systems, standard and increased environmental conditions
- Interface
 - Power supply units
 - Overvoltage protection
 - Coupling relays, semiconductor switches
 - Timer relays, measuring and monitoring relays
 - Analog coupling and converter modules
 - Passive interfaces

Solutions for field applications

- Decentralized installation and automation technology
 - Electrical installation for wind tower
 - Fieldbus interfaces and motor starters
- Connectors for industrial applications
 - Rectangular and round connectors
 - Aluminium or plastic housings
 - Degree of protection up to IP68
 - Current-carrying capacity up to 100 A
 - Connectors for hazardous areas
 - Modular, application-specific technology

PC board terminals and connectors

- Screw or spring clamp connection technology
- Spacings: 3.5 mm to 10.16 mm
- Reflow or wave soldering process

Building and installation technology

- Building installation systems
 - Main power supply connectors IP20/IP65...IP68
 - Bus connectors
 - Low-voltage connectors
 - Power distribution system with flat cables
 - Distribution systems
 - Bus systems in KNX, LON and wireless technology
 - DIN rail terminal blocks for electrical installations
 - Overvoltage protection

**contacts
are
green.**