

GILOGIK II PLC and distributed I/O

**GILOGIK II
PLC and
distributed I/O**



GEFRAN

Our Know how,
Your Solution.

GILOGIK II

Gefran's GILOGIK II PLC, programmable in IEC61131-3 and/or remote I/O, offers multiple architectures to satisfy a wide variety of industrial automation needs. Flexibility and scalability guarantee top performance and easy integration in all processes.

High data refresh
rate with parallel back-plane

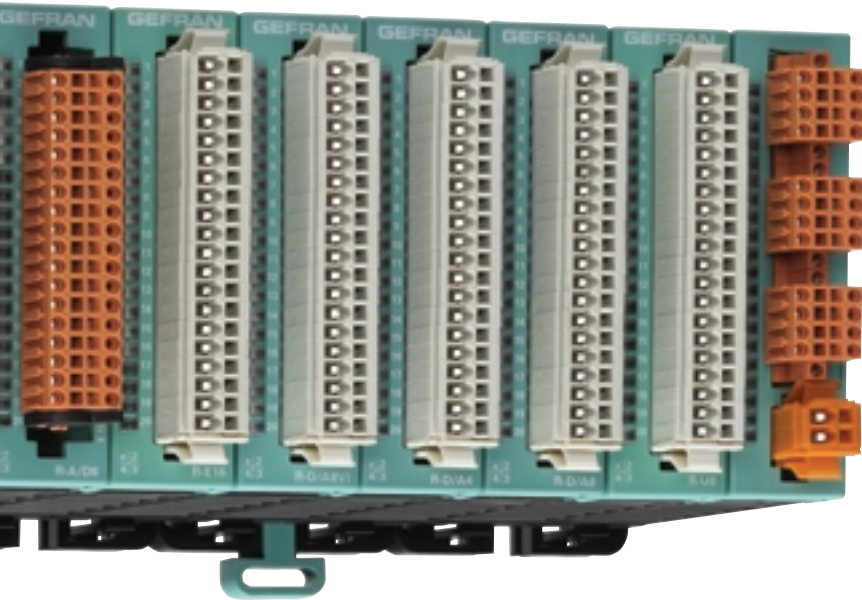


Open architecture
integrates easily in
standard fieldbuses

Compact structure
thanks to high-density I/O

Real-time
Fast Ethernet solution

Modular system is scalable
for different solutions



IP67
Protection



GLK67-IRTC



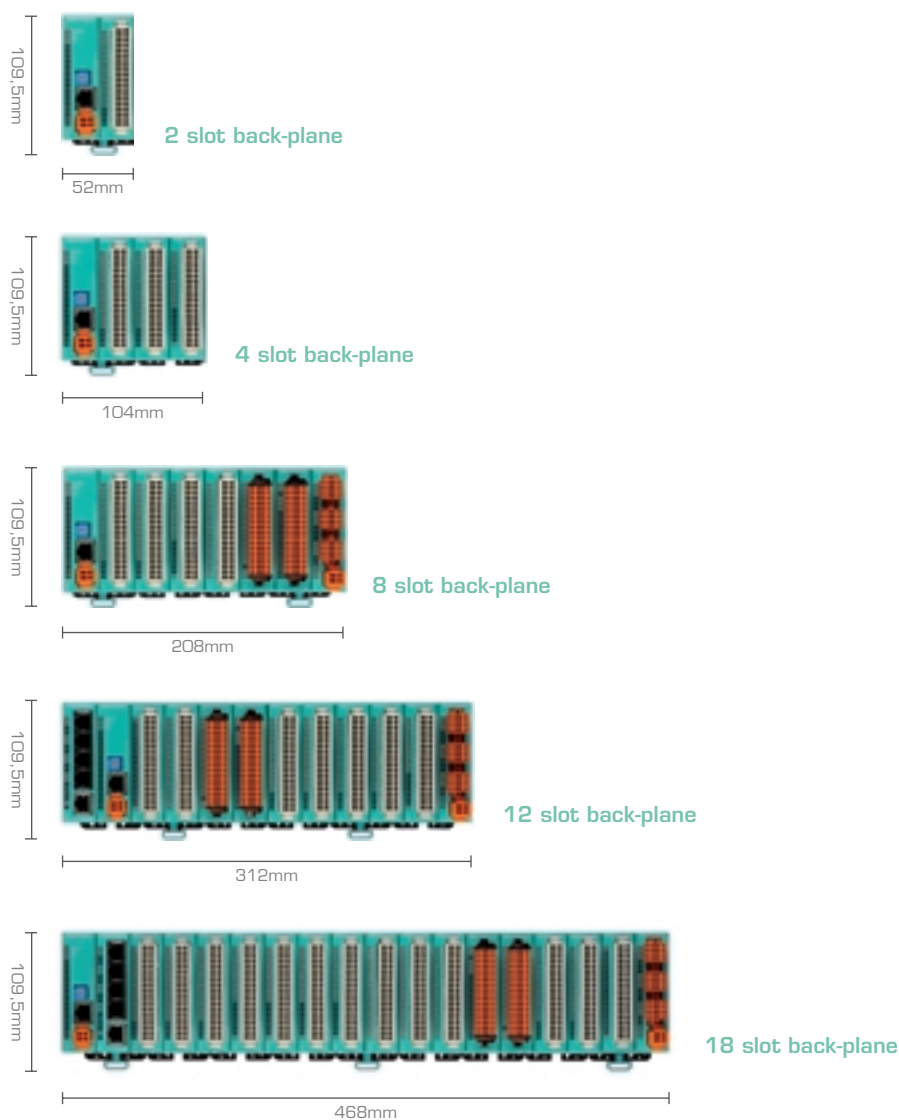
GLK67-BRTC

MODULES ORGANIZATION

GILOGIK II is a high-performance PLC and distributed I/O system.

It is organized in modules that install on dedicated back-planes with BUS and feed function. The GILOGIK II family consists of CPUs, gateway modules and I/O modules that form acquisition and control systems in various application sectors.

Its modern architecture (based on a 32 bit processor) and parallel back-plane provide excellent performance. GILOGIK II can be connected to HMIs such as industrial PCs, operator terminals, Ethernet supervision systems with various protocols and popular fieldbuses such as Profibus, CANOpen and Modbus RTU.



Compactness

High-density I/Os in each module and the ability to control a large number of nodes drastically reduces the space required in the panel for automation solutions with a high number of digital/analog inputs/outputs.

Example of architecture based on GDNNet Fast Ethernet protocol.

18 slot node

Max. number of digital inputs: 512

Max. number of digital outputs: 512

Max. number of analog inputs: 48

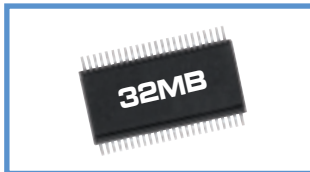
Max. number of analog outputs: 48

Max. number of temperature inputs: 128

MAIN CHARACTERISTICS

Real Time solution

Automation processes always need solutions based on high-performance real-time protocols. The GDNNet protocol, based on an all-software Fast Ethernet solution, efficiently satisfies growing needs for performance, repeatability and safety.



High storage capacity

No limit to data storage and/or program size thanks to high memory capacity of CPU.

Program memory: 32MB

Analog signals

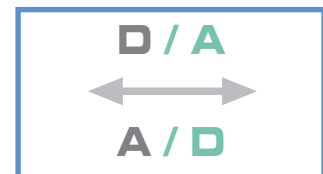
Analog signals are very important in automation processes. Examples of analog input signals include displacement, pressure and temperature. Analog output signals are used to control an inverter for correct positioning of a motor.

Another specific need is temperature control, both as acquisition of the analog signal with different types of sensors, and as control of actuators (usually SSR) to reach the set temperature.

Gefran offers a wide range of GILOGIK II modules to satisfy these needs. Specific modules to read only analog signals or a mix of inputs and outputs as well as dedicated temperature control modules.

Different types of signals can be read: voltage, current, temperature [TC, RTD]; signal modularity can be 4, 8 and 16 channels.

All signals are 16bit; resolution is 24 bit for temperatures.



Safety and reliability

Electrical isolation of all signals to and from the field and module intelligence makes GILOGIK II immune to noise and makes the system very safe and reliable.

Software

Gefran Automation Builder (G.A.B.)

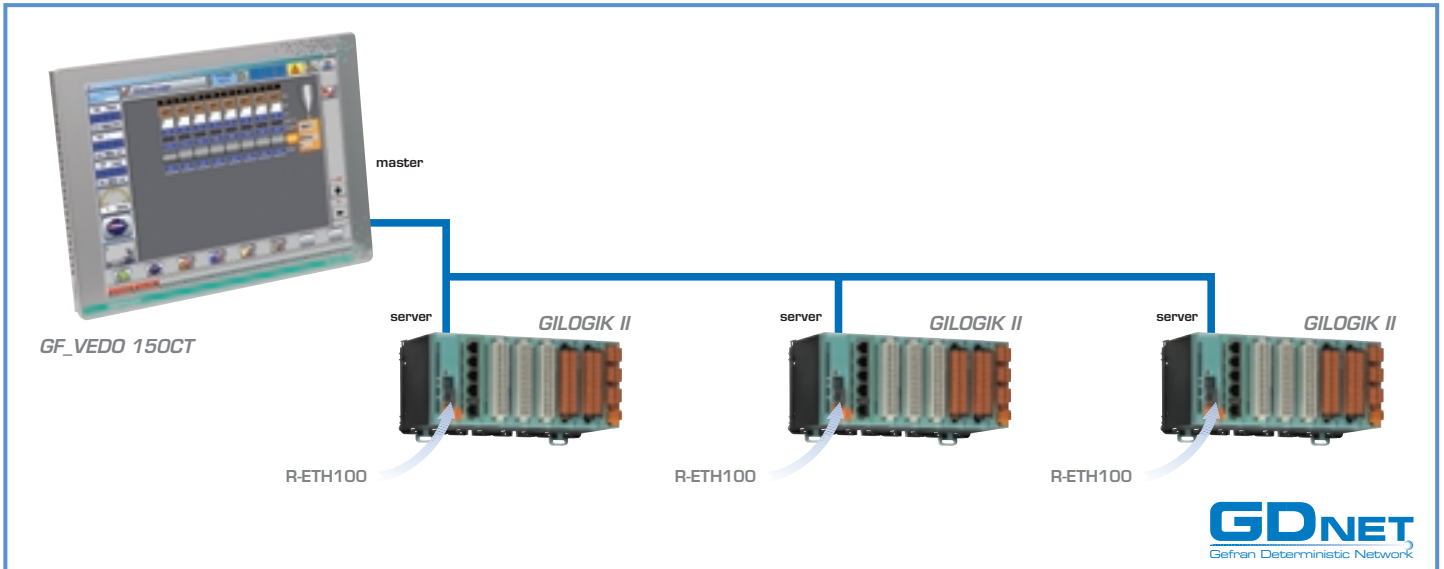
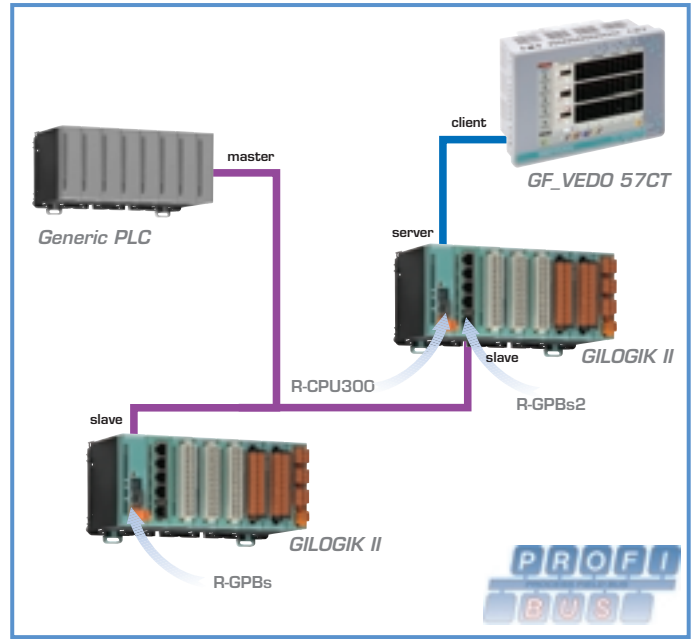
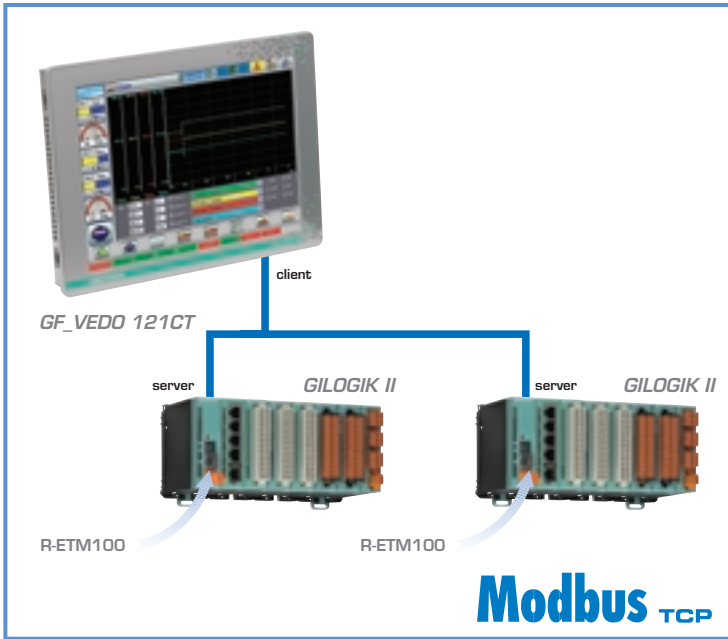
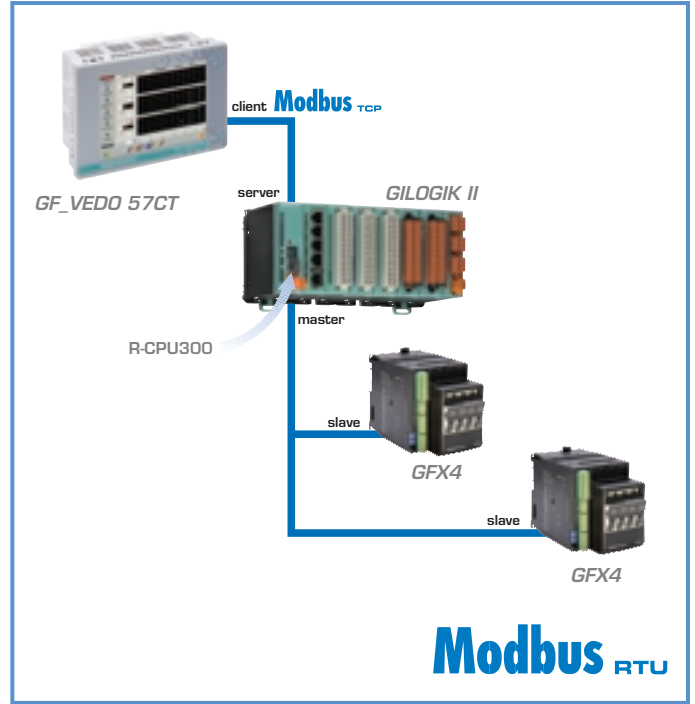
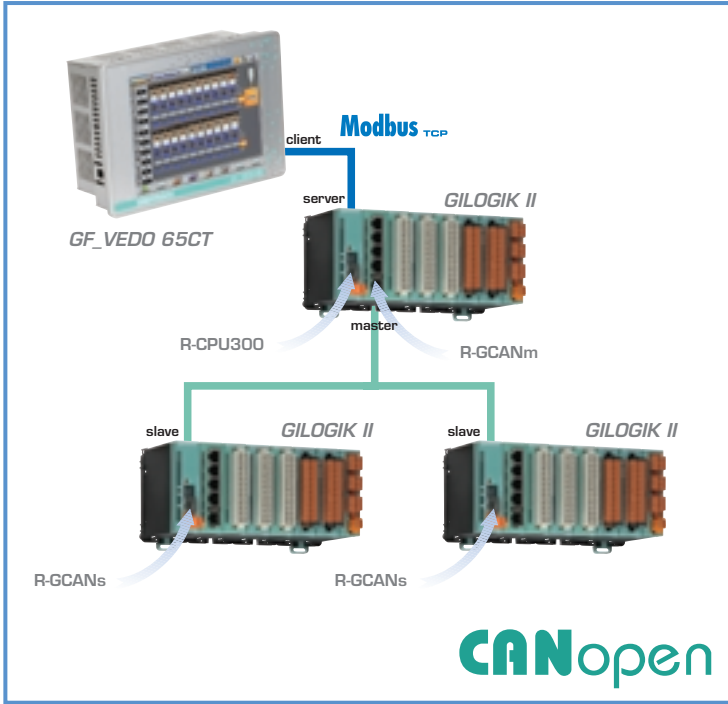
Application development (IEC61131-3 languages and graphics pages) is extremely rapid thanks to a single programming environment for all Gefran products.

In addition, code maintenance and reuse is extremely rapid and efficient, saving time and resources during program development.



FIELDBUS ARCHITECTURES

: Fieldbus architectures



MODULES

CPU

R-CPU300



Description	CPU module for GILOGIK II system
PROCESSOR	
Processor	32 bits ARM architecture
PLC cycle time	1ms (min)
MAIN MEMORY	
Program memory	32MB (Flash Eprom)
Dynamic RAM	16MB
Static RAM	256kB (with back-up battery)
COMMUNICATION PORT	
RS485	Modbus RTU protocol (master/slave)
Ethernet	Modbus TCP protocol (client/server)
USB (option)	Program upload/download

Digital I/Os

R-E16



Description	16 digital inputs
Number of channels	16
DIGITAL INPUTS	
Type	16
Max. Voltage/Current at input	24Vdc \pm 25%, PNP, optoisolated
Voltage signal	0 (OFF) \leq 12Vdc, 1 (ON) \geq 15Vdc, 25mA
Input filter	100Hz, 5000Hz (configurable via software)
Isolation	3kV
Protection	Polarity reverse
Diagnostics	LEDs: state
Advanced functions	Interrupt control (configurable via software)

R-US



Description	8 digital outputs
Number of channels	8
DIGITAL OUTPUTS	
Type	8 (4 groups of 2 outputs)
Max. Voltage/Current at output	24Vdc \pm 25%, PNP
Isolation	32Vdc, 3A (single output), 5A (groups), 15A (total)
Protection	3kV
Diagnostics	Short circuit, overload, overvoltage, overtemperature
	LEDs: state/alarms/power supply

R-U16



Description	16 digital outputs
Number of channels	16
DIGITAL OUTPUTS	
Type	16 (1 group of 8 outputs, 2 groups of 4 outputs)
Max. Voltage/Current at output	24Vdc \pm 25%, PNP
Isolation	32Vdc, 2A (single output), 8A (groups of 8 outputs), 6A (groups of 4 outputs), 15A (total)
Protection	2kV
Diagnostics	Short circuit, overload, overvoltage, overtemperature
	LEDs: state/alarms/power supply

MODULES

R-EU16



Description	8 digital inputs + 8 digital outputs
Number of channels	16
DIGITAL INPUTS	8
Type	24Vdc ±25%, PNP, optoisolated
Max. Voltage/Current at input	32Vdc, 25mA
Voltage signal	0 (OFF) ≤ 12Vdc, 1 (ON) ≥ 15Vdc
Input filter	100Hz, 5000Hz, (configurable via software)
Isolation	3kV
Protection	Polarity reverse
Diagnostics	LEDs: state
Advanced functions	Interrupt control
DIGITAL OUTPUTS	8 (2 groups of 4 outputs)
Type	24Vdc, ±25%, PNP
Max. Voltage/Current at output	32Vdc, 2A (single output), 5A (groups), 8A (total)
Isolation	3kV
Protection	Current protection, overvoltage
Diagnostics	LEDs: state of inputs/alarms/power supply

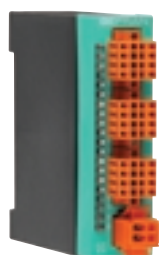
NEW

R-EU32



Description	16 digital inputs + 16 digital outputs
Number of channels	32
DIGITAL INPUTS	16
Type	24Vdc ±25%, PNP, optoisolated
Max. Voltage/Current at input	32Vdc, 25mA
Voltage signal	0 (OFF) ≤ 12Vdc, 1 (ON) ≥ 15Vdc
Isolation	3kV
Protection	Polarity reverse
Diagnostics	LEDs: state
DIGITAL OUTPUTS	16 (2 groups)
Type	24Vdc, ±25%, PNP
Max. Voltage/Current at output	32Vdc, 2A (single output), 3A (groups), 6A (total)
Isolation	3kV
Protection	Short circuit, overload, overvoltage, overtemperature
Diagnostics	State of output (green LED), alarms (red LED), power supply (yellow LED)

R-C3



Description	3 counter inputs
Number of channels	3
DIGITAL INPUTS	9
Type	8...32Vdc inputs, 25mA max. Encoder: differential, push-pull, single ended, open collector
Input filter	100Hz, 10kHz, 100kHz, 500kHz (configurable via software)
Resolution	32 bits
Isolation	2kV
Diagnostics	LEDs: state/alarms/interrupt/power supply
Advanced functions	Encoder, counter, measurement of period, speed, frequency, pulse

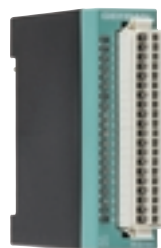
Analog I/Os

R-A/D8



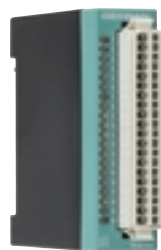
Description	8 analog inputs
Number of channels	8
ANALOG INPUTS	8
Type	Channels 1-2: potentiometer/linear 0...10V/strain gauge 0...30mV, 0...100mV Channels 3-4: potentiometer/linear 0...10V ±10V Channels 5-8: potentiometer/linear 0...10V, 2V, 0/4...20mA
Input resistance	Voltage 1MΩ, Current 100Ω
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2,5kV
Diagnostics	LEDs: state/alarms/interrupt/power supply/software
Advanced functions	Integrated power supply for transducers (potentiometer, strain gauge)

R-D/A4



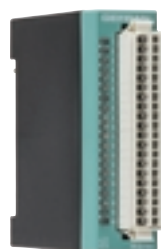
Description	4 analog outputs
Number of channels	4
ANALOG OUTPUTS	4
Type	±10V, 20mA max
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2,5kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: state/alarms/interrupt/power supply/software

R-D/A8



Description	8 analog outputs
Number of channels	8
ANALOG OUTPUTS	8
Type	±10V, 20mA max
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2,5kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: state/alarms/interrupt/power supply/software

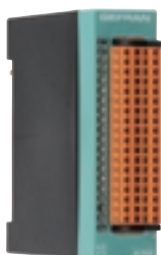
R-D/A16



Description	16 analog outputs
Number of channels	16
ANALOG OUTPUTS	16
Type	±10V, 20mA max
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2,5kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: state/alarms/interrupt/power supply/software

MODULES

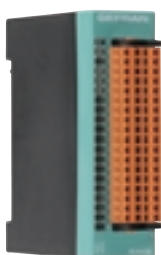
R-TC8



Description	8 temperature inputs
Number of channels	25
DIGITAL INPUTS	1
Type	24Vdc, $\pm 25\%$, PNP
Function	Measurement of frequency and period
Filter	1,5kHz
ANALOG INPUTS	8
Type	TC: J, K
Input resistance	$> 1M\Omega$
Resolution	24 bits
Isolation	2kV
Advanced functions	Integrated temperature compensation
DIGITAL OUTPUTS	16 (1 group)
Type	24Vdc, $\pm 25\%$, PNP
Max. Voltage/Current at output	32Vdc, 2A (single output), 4A (groups), 8A (total)
Isolation	3kV
Protection	Short circuit, overload, overvoltage, overtemperature
Diagnostics	State of inputs/outputs (green LED), alarms output (red LED), power supply (yellow LED)



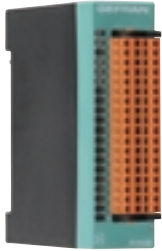
R-MIX



Description	8 digital inputs + 8 digital outputs + 4 analog inputs + 2 analog outputs + 2 CT
Number of channels	25
DIGITAL INPUTS	8
Type	24Vdc, $\pm 25\%$, PNP, optoisolated
Max. Voltage/Current at input	32Vdc, 25mA
Voltage signal	0 (OFF) $\leq 12Vdc$, 1 (ON) $\geq 15Vdc$
Input filter	100Hz, 5000Hz (configurable via software)
Isolation	2kV
Protection	Polarity reverse
Diagnostics	LEDs: state
Advanced functions	Interrupt control (configurable via software)
DIGITAL OUTPUTS	8 (1 group of 8 outputs)
Type	24Vdc, $\pm 25\%$, PNP
Max. Voltage/Current at output	32Vdc, 1A (single output), 3A, 2A (groups)
Isolation	2kV
Protection	Current protection, overvoltage
Diagnostics	LEDs: state inputs/alarms/power supply
ANALOG INPUTS	4
Type	TC [J, K, R, S, T], RTD [PT100, PT1000], potentiometer, linear 0...10V, 0...2,5V, 0/4...20mA, strain gauge 0...30mV, 100mV
Input resistance	Voltage $1M\Omega$, RTD 150Ω
Resolution	16 bits
Conversion time	$< 100\mu s$ all channels
Isolation	2kV
CT ANALOG INPUTS	2
Type	0,5mA ac RMS
Resistance	50Ω
ANALOG OUTPUTS	2
Type	$\pm 10V$ [20mA, max], $\pm 20mA$
Resolution	16 bits
Conversion time	$< 100\mu s$
Isolation	2kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: software

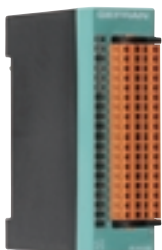
NEW

R-MIX-R



Description	8 digital inputs + 4 digital outputs + 4 relay outputs + 4 analog inputs + 2 analog outputs + 2 CT
Number of channels	25
DIGITAL INPUTS	8
Type	24Vdc, ±25%, PNP, optoisolated
Max. Voltage/Current at input	32Vdc, 25mA
Voltage signal	0 (OFF) ≤ 12Vdc, 1 (ON) ≥ 15Vdc
Input filter	100Hz, 5000Hz (configurable via software)
Isolation	2kV
Protection	Polarity reverse
Diagnostics	LEDs: state
Advanced functions	Interrupt control (configurable via software)
DIGITAL OUTPUTS	4 (1 group of 4 outputs)
Type	24Vdc, ±25%, PNP
Max. Voltage/Current at output	32Vdc, 1A (single output), 3A, 2A (groups)
Isolation	2kV
Protection	Current protection, overvoltage
Diagnostics	LEDs: state inputs/alarms/power supply
RELAY OUTPUTS	4
Type	2 voltage-free contacts (NO), 2 contacts with common
Max voltage	250Vac
Max current	5A
ANALOG INPUTS	4
Type	TC [J, K, R, S, T], RTD [PT100, PT1000], potentiometer, linear 0...10V, 0...2,5V, 0/4...20mA, strain gauge 0...30mV, 100mV
Input resistance	Voltage 1MΩ, RTD 150Ω
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2kV
CT ANALOG INPUTS	2
Type	0,5mA ac RMS
Resistance	50Ω
ANALOG OUTPUTS	2
Type	±10V [20mA, max], ±20mA
Resolution	16 bits
Conversion time	< 100μS
Isolation	2kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: software

R-M/A6

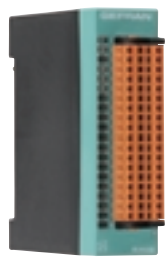


Description	6 analog inputs + 6 analog outputs
Number of channels	12
ANALOG INPUTS	6
Type	Channels 1-2: potentiometer/linear 0...10V/strain gauge 0...30mV, 0...100mV Channels 3-6: potentiometer/linear 0...10V, 0...2V, 0/4...20mA
Load resistance	Voltage 1MΩ, Current 100Ω
Resolution	16 bits
Conversion time	< 500μS all channels
Isolation	2kV
Diagnostics	LEDs: state/alarms/interrupt/power supply/software
Advanced functions	Integrated power supply for transducers
ANALOG OUTPUTS	6
Type	±10V, 20mA max
Resolution	16 bits
Conversion time	< 100μS
Isolation	2kV
Protection	Short circuit, overload, overvoltage
Diagnostics	LEDs: state/alarms/interrupt/power supply/software

MODULES

NEW

R-TEMP4



Description	8 digital outputs + 4 analog inputs + 2 CT
Number of channels	14
DIGITAL OUTPUTS	8 (1 group of 8 outputs)
Type	24Vdc, ±25%, PNP
Max. Voltage/Current at output	32Vdc, 1A (single output), 3A, 2A (groups)
Isolation	2kV
Protection	Current protection, overvoltage
Diagnostics	LEDs: state inputs/alarms/power supply
ANALOG INPUTS	4
Type	TC [J, K, R, S, T], RTD [PT100, PT1000], potentiometer, linear 0...10V, 0...2,5V, 0/4...20mA, strain gauge 0...30mV, 100mV
Input resistance	Voltage 1MΩ, RTD 150Ω
Resolution	16 bits
Conversion time	< 100μS all channels
Isolation	2kV
CT ANALOG INPUTS	2
Type	0,5mA ac RMS
Resistance	50Ω

FieldBuses

R-ETH100



Description	GNet communication module
Number of channels	1
FIELDBUS	1
Protocol	GNet (Fast Ethernet)
Function	FieldBus Coupler for GILOGIK II I/O modules
Connector	RJ45 CAT5 10/100 BaseT
Baud Rate	10/100 Mbit/s
Address	1...15 by rotary switch
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

R-ETM100



Description	Modbus TCP communication module
Number of channels	1
FIELDBUS	1
Protocol	Modbus TCP
Function	FieldBus Coupler for GILOGIK II I/O modules
Connector	RJ45 CAT5 10/100 BaseT
Baud Rate	10/100 Mbit/s
Address	IP address via software (for configuration only with rotary switch)
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

R-GCANs



Description	CANopen slave communication module
Number of channels	1
FIELDBUS	1
Protocol	CANopen (slave)
Function	FieldBus Coupler for GILOGIK II I/O modules
Connector	D-SUB 9 male
Baud Rate	20kbit/s...1Mbit/s
Address	1...99 with rotary switch
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

NEW

R-GCANm



Description	CANopen master communication module
Number of channels	1
FIELDBUS	1
Protocol	CANopen (master)
Function	FieldBus Coupler per CPU
Connector	D-SUB 9 male
Baud Rate	20kbit/s...1Mbit/s
Address	1...99 with rotary switch
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

R-GPBs



Description	Profibus DP slave communication module
Number of channels	1
FIELDBUS	1
Protocol	Profibus DP (slave)
Function	FieldBus Coupler for GILOGIK II I/O modules
Connector	D-SUB 9 female
Baud Rate	Autosynchronization (9,6...12000kBit/s)
Address	HW: 1...99 set with rotary switch SW: 1...124 via specific message
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

NEW

R-GPBs2



Description	Profibus DP slave communication module
Number of channels	1
FIELDBUS	1
Protocol	Profibus DP (slave)
Function	FieldBus Coupler for CPU
Connector	D-SUB 9 female
Baud Rate	Autosynchronization (9,6...12000kBit/s)
Address	HW: 1...99 set with rotary switch SW: 1...124 via specific message
Diagnostics	LEDs: state of transmission/alarms/power supply/software
Power supply	24Vdc, ±25%, 2A max

MODULES

Ethernet Switch

R-SW5



Description	Ethernet switch communication module
Number of channels	5
ETHERNET	5
Protocol	-
Function	The Ethernet switch lets you connect to a wide range of Ethernet products, including the distributed I/O system (GILOGIK II), drives, operator interfaces, computers
Connector	Five RJ45 connectors
Baud rate	10/100 Mbit/s - autosense
Diagnostics	LEDs: state of transmission/alarms/power supply

SW5-SA

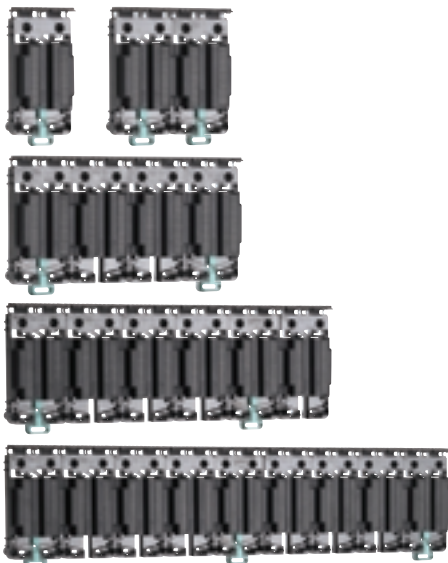


Description	Ethernet switch communication module
Number of channels	5
ETHERNET	5
Protocol	-
Function	The Ethernet switch lets you connect to a wide range of Ethernet products, including the distributed I/O system (GILOGIK II), drives, operator interfaces, computers
Connector	Five RJ45 connectors
Baud rate	10/100 Mbit/s - autosense
Diagnostics	LEDs: state of transmission/alarms/power supply

Back-Plane

R-BUS

Description	Back plane modules
Number of slot	2 (R-BUS2); 4 (R-BUS4); 8 (R-BUS8); 12 (R-BUS12); 18 (R-BUS18)
Type	16 bit parallel
Installation	35mm DIN bar/ 4 MA screws



GLK67

the automation solution with IP67 protection degree

Series of remote I/O with IP67 protection and CANopen or Profibus DP interface for automation solutions in harsh environment with dust, liquids and wide temperature range.

The mechanical robustness of the die-cast aluminium housing, and the total IP67 protection degree allow the GLK67 series to be installed directly on the machine, with sensible savings in terms of cabling and electrical panel space requirements.

CHARACTERISTICS

- J and K thermocouples inputs
- "Harting" connector mounting version (IRTC)
- Plate-mounting version (BRTC)
- Total IP67 protection degree
- A single cable for bus and power supply
- High channels density, up to 32 TC for module
- Cabling and space savings
- Integration in standard automation networks

APPLICATIONS

- Multi-cavity moulds and Hot runners
- Extrusion lines
- Blow-moulding machines
- Metal works

GLK67-IRTC



Description	GLK67-IRTC temperature input modules with IP67 protection
Number of channels	8/12/16/20/32 (according to model)
ANALOG INPUTS	8/12/16/20/32
Type	TC [J, K] (configurable for each channel) integrated ambient temperature compensation
Connector	Harting / HanE and HanD
Accuracy	0,1% fs
Resolution	24 bit
Conversion time	< 60ms all channels
Working temperature	-10...+65°C
POWER SUPPLY	24Vdc, ±25%
PROTOCOLS	CANopen, Profibus DP

GLK67-BRTC



Description	GLK67-BRTC temperature input modules with IP67 protection
Number of channels	12/16 (according to model)
ANALOG INPUTS	12/16
Type	TC [J, K] (configurable for each channel) integrated ambient temperature compensation
Connector	M12 (12 channels), M8 (16 channels)
Accuracy	0,1% fs
Resolution	24 bit
Conversion time	< 60ms all channels
Working temperature	-10...+65°C
POWER SUPPLY	24Vdc, ±25%
PROTOCOLS	CANopen, Profibus DP

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