

INOVANCE

GL20 Series

Compact, flexible, high-speed distributed I/O system



- Compact footprint
- Easy installation, wiring and replacement
- Fast response times (microsecond range)
- Conformal coating - compliant with 3C3 and 3S2
- Multiprotocol



EtherCAT



EtherNet/IP



Expansion capability GL20 expansion modules



NEW generation slim and compact distributed I/O system from **INOVANCE**, with faster response times, easy connection via spring clamp terminals, and a wider offer of communication protocols and I/O expansion modules, compared to previous generations.

Firmware update can be done through TYPE-C USB port, to connect the PC with the firmware update tool

Independent status diagnosis LED indicators; coloured letters for quick identification of I/O functions

D-BUS connector design with gold plated terminals to give high protection against corrosion



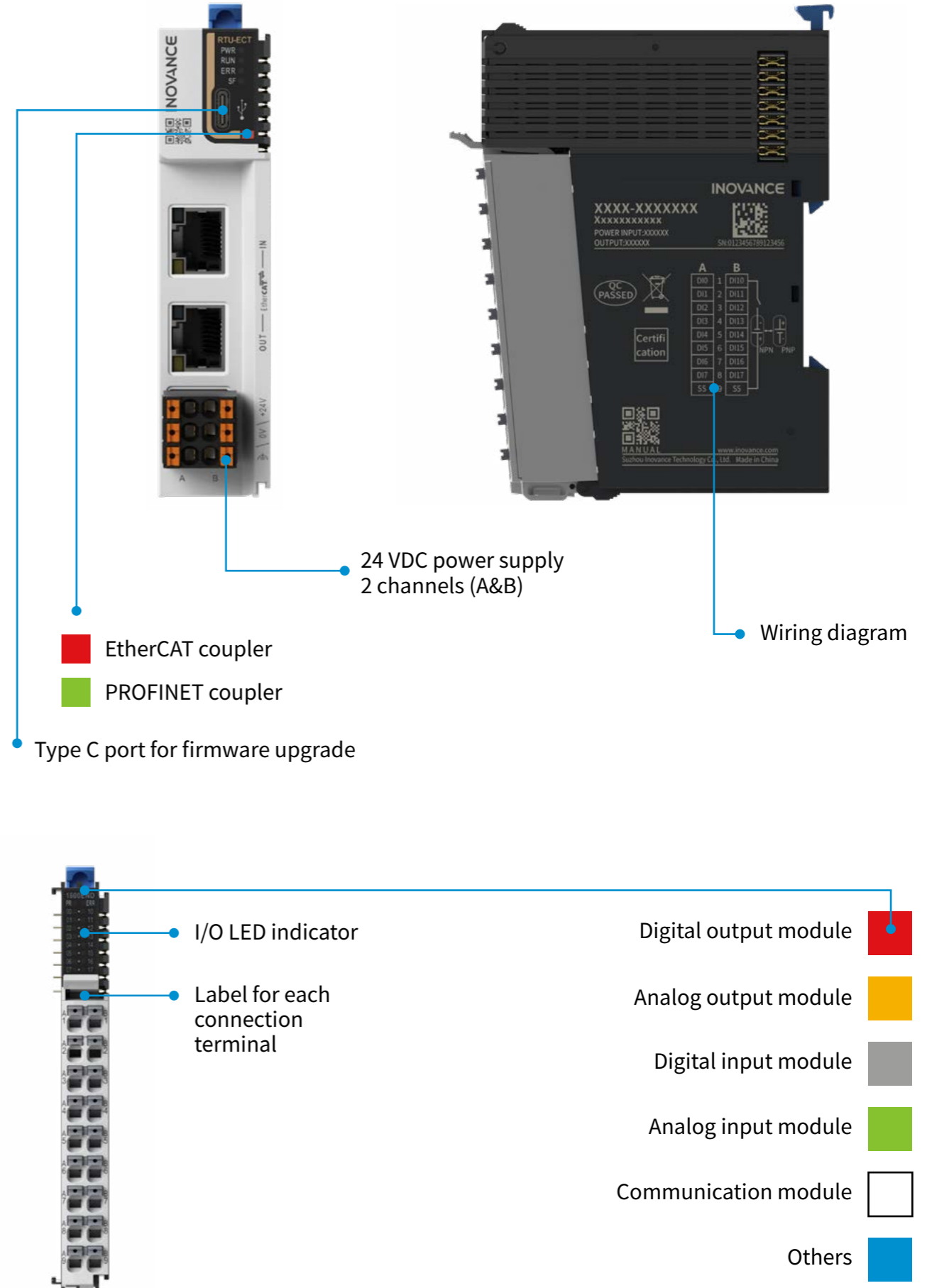
Redundant power supply terminals (left and right internally shorted) for easy daisy chain connection

Removable terminals to allow quick module replacement without disconnecting cables

Push-in terminals with large aperture to fit various types of cables and allow easy wiring



100 M local bus



Expansion capability

GL20 expansion modules

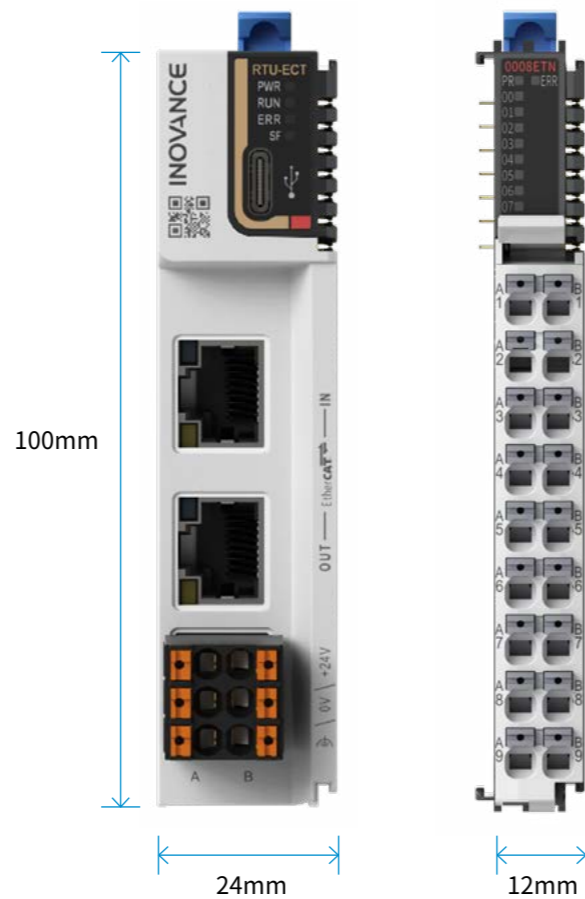
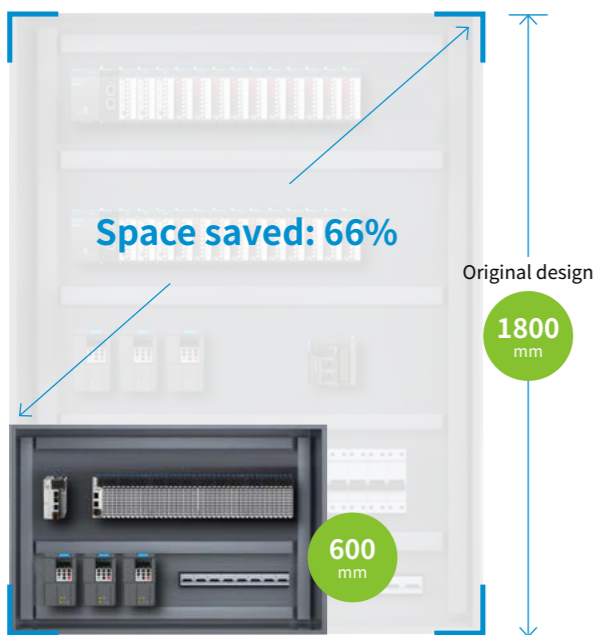


Compact Size

Saves 2/3 of the space in the cabinet compared to the previous generation I/O series

Space utilisation maximised

Thickness reduced to **12mm**
2/3 cabinet space saved



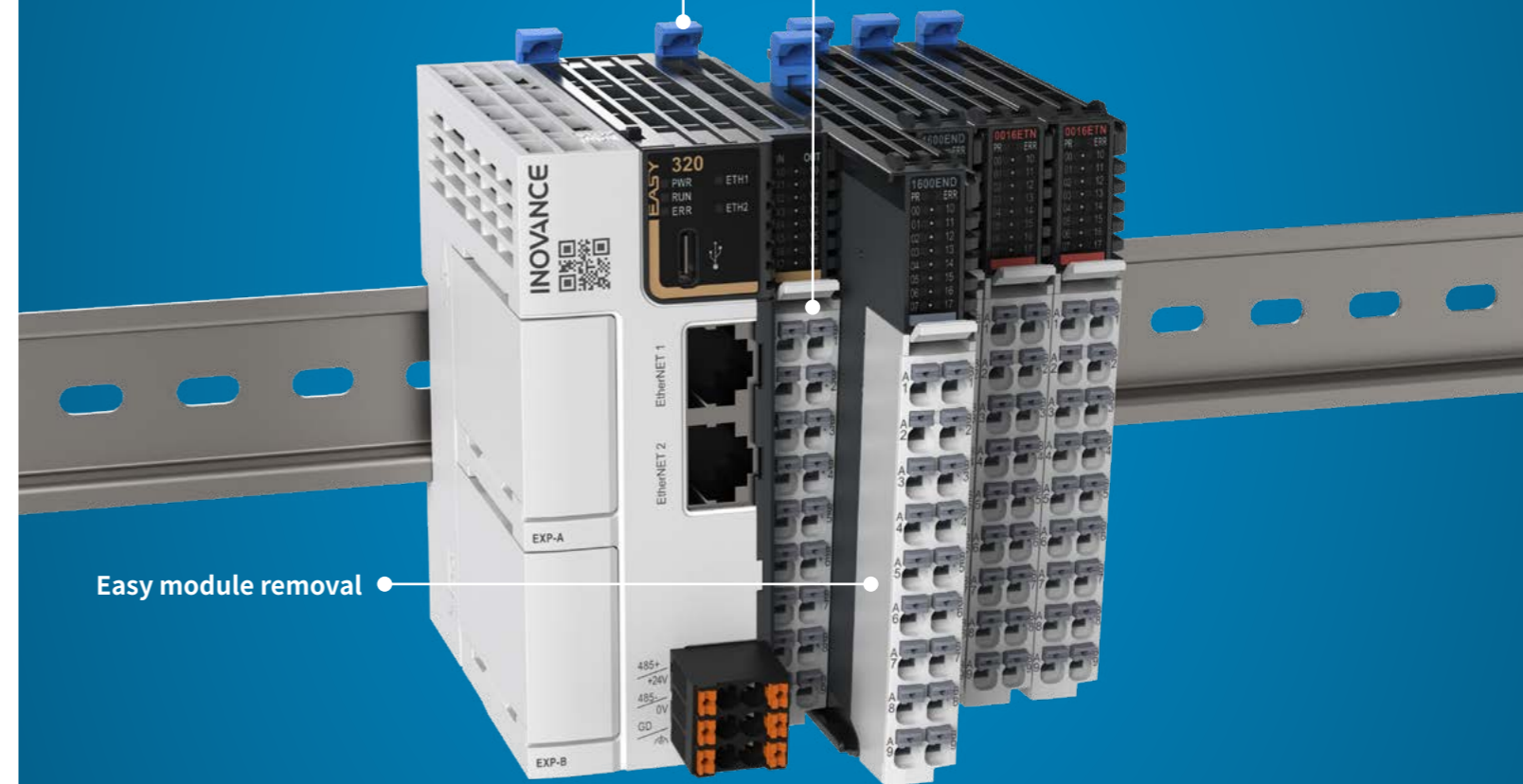
Compact design and tool-free wiring



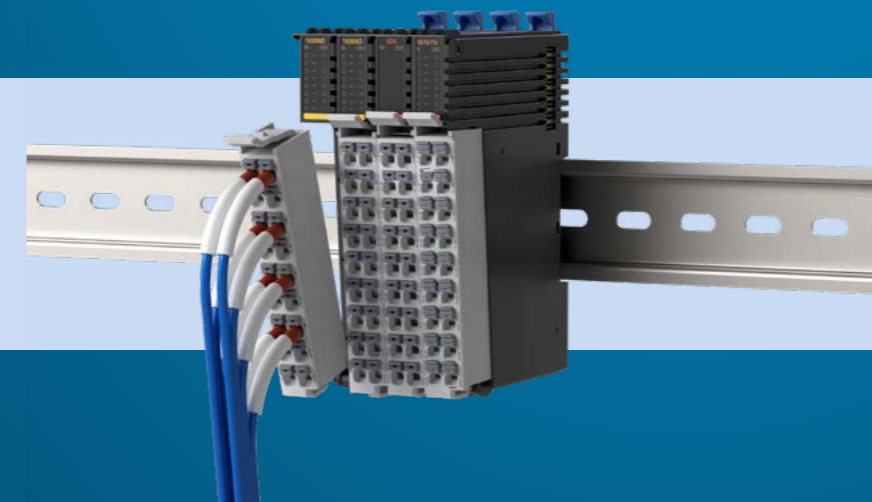
Simple lever system allows easy removal of individual modules from the DIN rail



Easy wiring with spring-type terminals, with large 1.5mm² apertures



Easy module removal



Removable terminals minimize installation errors

Expansion capability

GL20 EtherCAT bus coupler



RTU-ECT-32

EtherCAT®

- ✓ Min. cycle time of 125 microseconds
- ✓ Allows EtherCAT alias configuration
- ✓ USB-C port for firmware upgrade

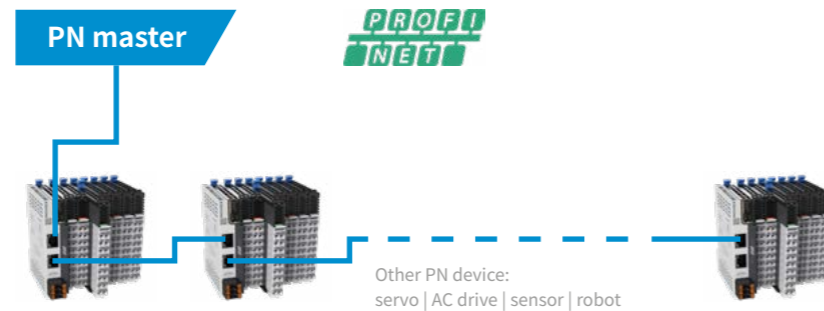
The bus coupler module supports up to 32 I/O expansion modules.

NOTE: The rated current of the internal bus of the coupler is 2 A. If a higher current is required, a combination of the bus coupler and the power supply expansion module GL20-PS2 should be used. Consult with your local Inovance office for correct use of this module.

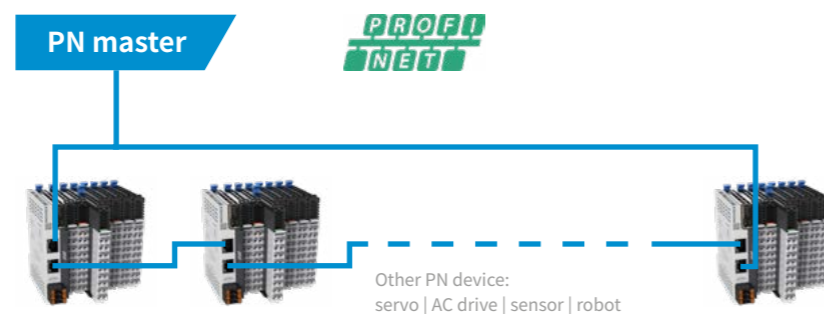
Item	Specification
Material code	01440654
Model	GL20-RTU-ECT32-INT
IP rating	IP20
Certification	CE & UL
Power supply	
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	0.6 A (typical value: 24 V)
Rated voltage of bus output power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus output power supply	2 A (typical value: 5 V)
Power output derating	Operation at ambient temperatures between 45 and 55°C can be achieved by applying a derating of up to 85% (the output current cannot exceed 1.7 A)
Power supply protection	Overcurrent, reverse-connection and surge protection
Ambient operating temperature	-20°C to 55°C
Ambient operating humidity	<95% RH, non-condensing
Atmosphere	Free from corrosive gases
Ambient storage temperature	-20°C to 60°C (<90% RH, non-condensing)
Altitude	Below 2,000 m (80 kPa)
Pollution degree	PD2
Noise immunity	2 kV on power supply line (Conforms to IEC 61000-4-4)
Overvoltage category	I
EMC immunity level	Zone B, IEC 61131-2
Vibration resistance	IEC 60068-2-6
Shock resistance	IEC 60068-2-27
Size (WxHxD: mm)	24x100x80

Expansion capability

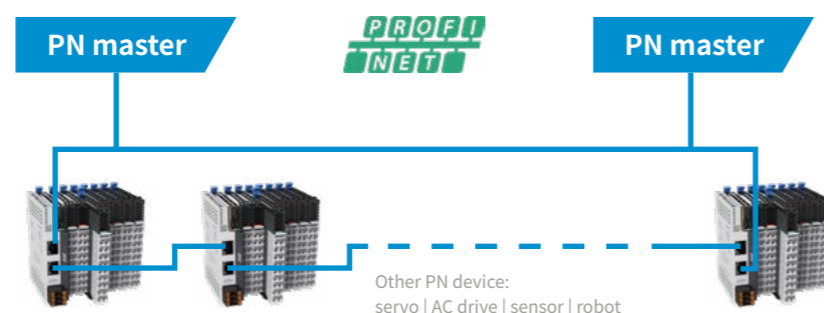
GL20 PROFINET bus coupler



✓ **Comm mode: RT**
Min cycle: 1ms



✓ **MRP**
Up to 50 devices



✓ **Memory (device) share**

The bus coupler module supports up to 32 I/O expansion modules (firmware version <2.2.0.0 only supports 16 I/O expansion modules).

NOTE: The rated current of the internal bus of the coupler is 2 A. If a higher current is required, a combination of the bus coupler and the power supply expansion module GL20-PS2 should be used. Consult with your local Inovance office for correct use of this module.

Item	Specification
Material code	01440785
Model	GL20-RTU-PN-INT
IP rating	IP20
Certification	CE & UL
Power supply	
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	0.6 A (typical value: 24 V)
Rated voltage of bus output power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus output power supply	2 A (typical value: 5 V)
Power output derating	
Power supply protection	Overcurrent, reverse-connection and surge protection
Ambient operating temperature	-20°C to 55°C
Ambient operating humidity	<95% RH, non-condensing
Atmosphere	Free from corrosive gases
Ambient storage temperature	-20°C to 60°C (<90% RH, non-condensing)
Altitude	Below 2,000 m (80 kPa)
Pollution degree	PD2
Noise immunity	2 kV on power supply line (Conforms to IEC 61000-4-4)
Overvoltage category	II
EMC immunity level	Zone B, IEC 61131-2
Vibration resistance	IEC 60068-2-6
Shock resistance	IEC 60068-2-27
Size (WxHxD: mm)	24x100x83

Expansion capability

GL20 EtherNet/IP bus coupler



EtherNet/IP™

✓ USB-C port for firmware upgrade

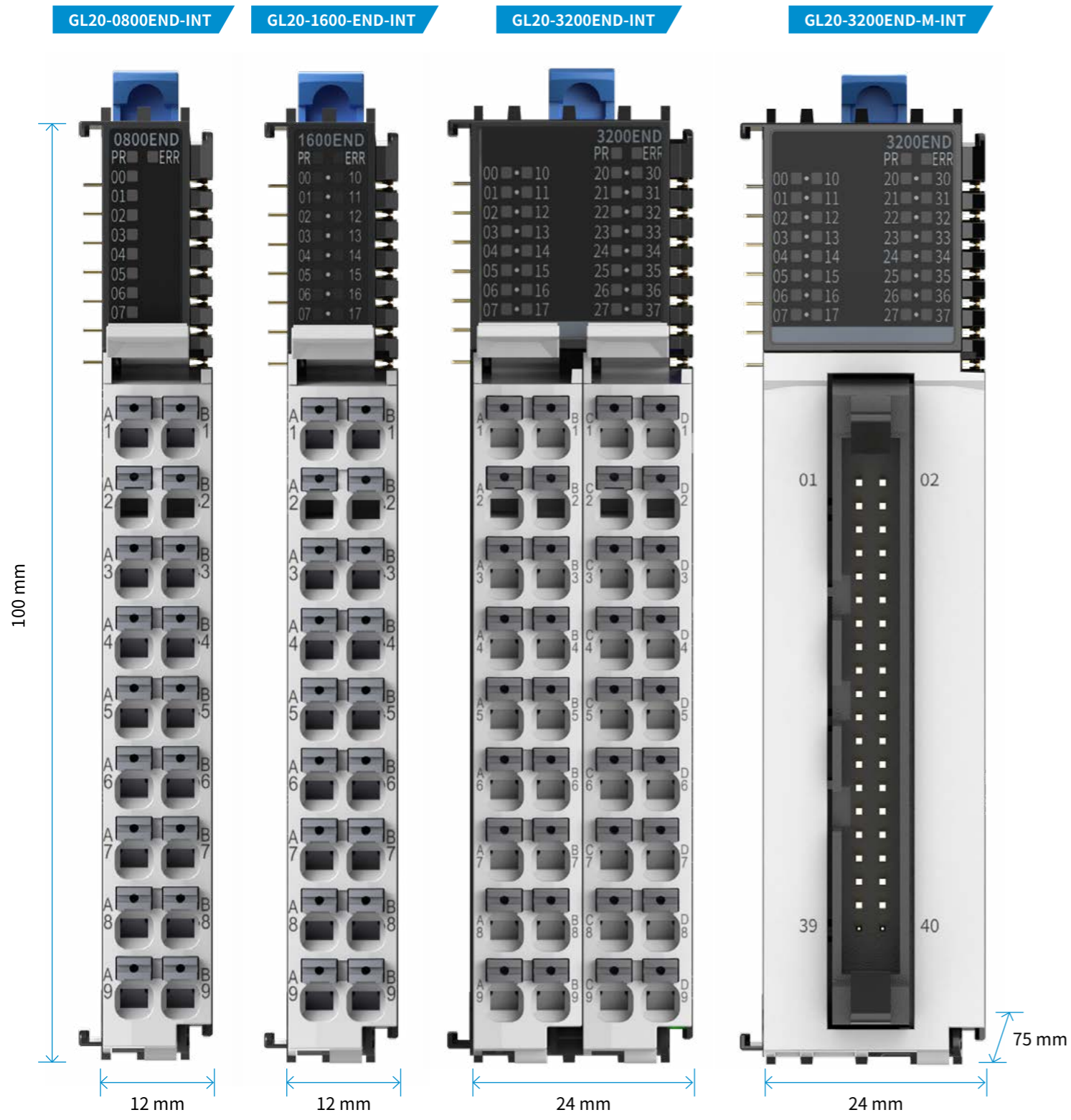
The bus coupler module supports up to 16 I/O expansion modules.

Item	Specification
Material code	01440924
Model	GL20-RTU-EIP-INT
IP rating	IP20
Certification	CE & UL

Power supply	
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	0.6 A (typical value: 24 V)
Rated voltage of bus output power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus output power supply	2 A (typical value: 5 V)
Power output derating	Operation at ambient temperatures between 45 and 55°C can be achieved by applying a derating of up to 80% (the output current cannot exceed 1.6 A)
Power supply protection	Overcurrent, reverse connection and surge protection
Ambient operating temperature	-20°C to 55°C
Ambient operating humidity	10% to 90% RH, non-condensing
Atmosphere	No corrosive and flammable gas and no excessive conductive dust
Ambient storage temperature	-40°C to 70°C (<90% RH, non-condensing)
Altitude	< 2,000 m
Pollution degree	PD2
Noise immunity	2 kV on power supply line (Conforms to IEC 61000-4-4)
Overvoltage category	I
EMC immunity Level	Zone B, IEC 61131-2
Vibration resistance	IEC 60068-2-6
Shock resistance	IEC 60068-2-27
Size (WxHxD:mm)	24x100x83

Expansion capability

GL20 digital inputs (PNP/NPN)



Requires external terminal block T024-K and extension cable

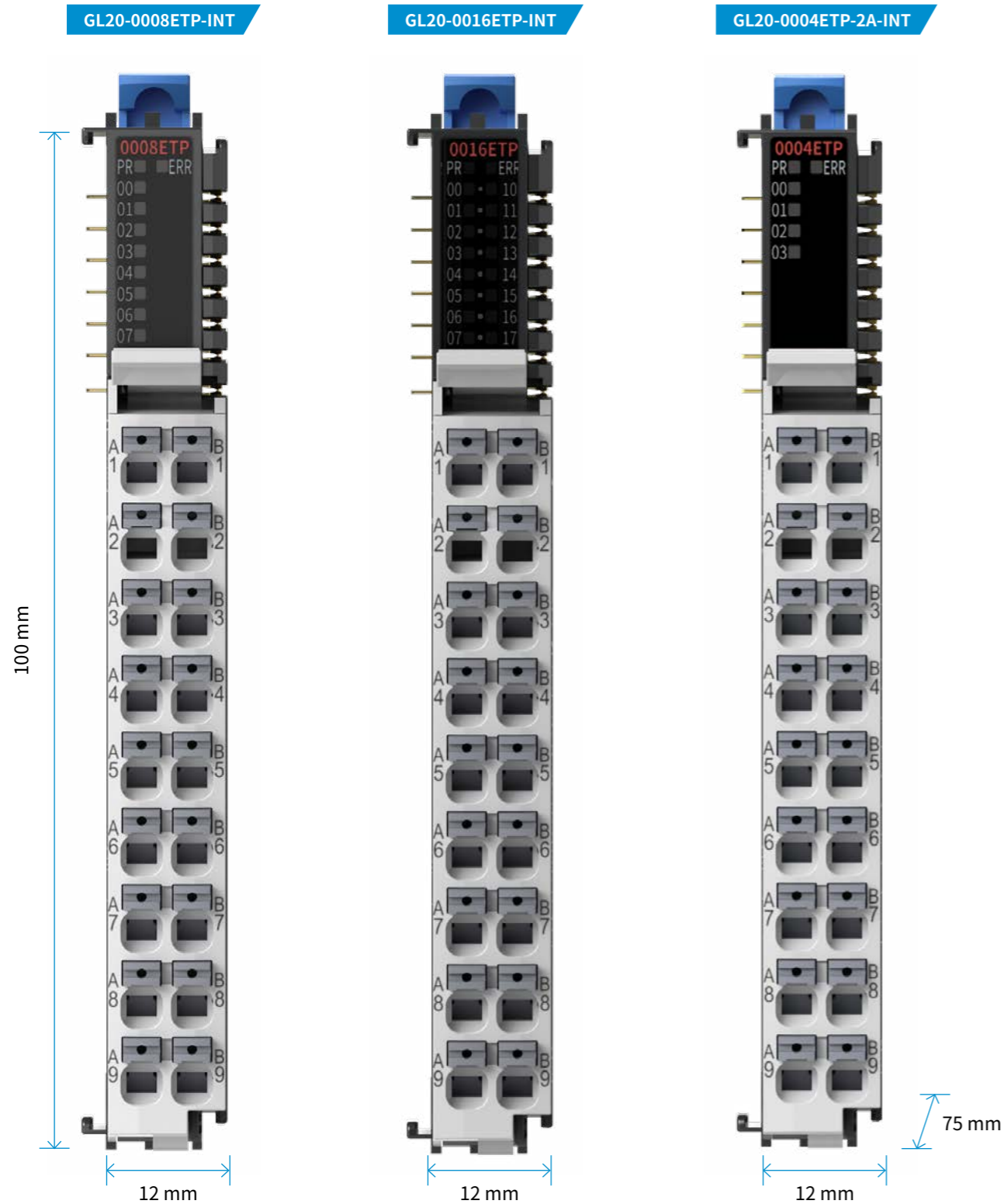
Item	Specification			
Material code	01440771	01440737	01440739	01440778
Model	GL20-0800END-INT	GL20-1600END-INT	GL20-3200END-INT	GL20-3200END-M-INT
IP rating	IP20			
Certification	CE & UL			
Ambient temperature	-20 °C to +55 °C			

Power supply				
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)			
Rated current of bus input power supply	105 mA (typical at 5 V)	120 mA (typical at 5 V)	120 mA (typical at 5 V)	95 mA (typical at 5 V)
Rated voltage of terminal input power supply	N/A			
Rated current of terminal input power supply	N/A			
Module hot swap function	Not supported			

Input				
Input mode	Digital input			
Input type	Source/Sink type (PNP/NPN)			
Number of input channels	8	16	32	32
Input voltage class	24 VDC ± 10% (21.6 VDC to 26.4 VDC)			
Input current (typical)	4 mA (typical value at 24 V)			
ON voltage	> 15 VDC			
OFF voltage	< 5 VDC			
Hardware response time (ON/OFF)	100 us/100 us			
Software filter time	Supported			
Input impedance	Reference value 5.3 k to 5.6 k			
Isolation	Yes			
Protective functions	/			

Expansion capability

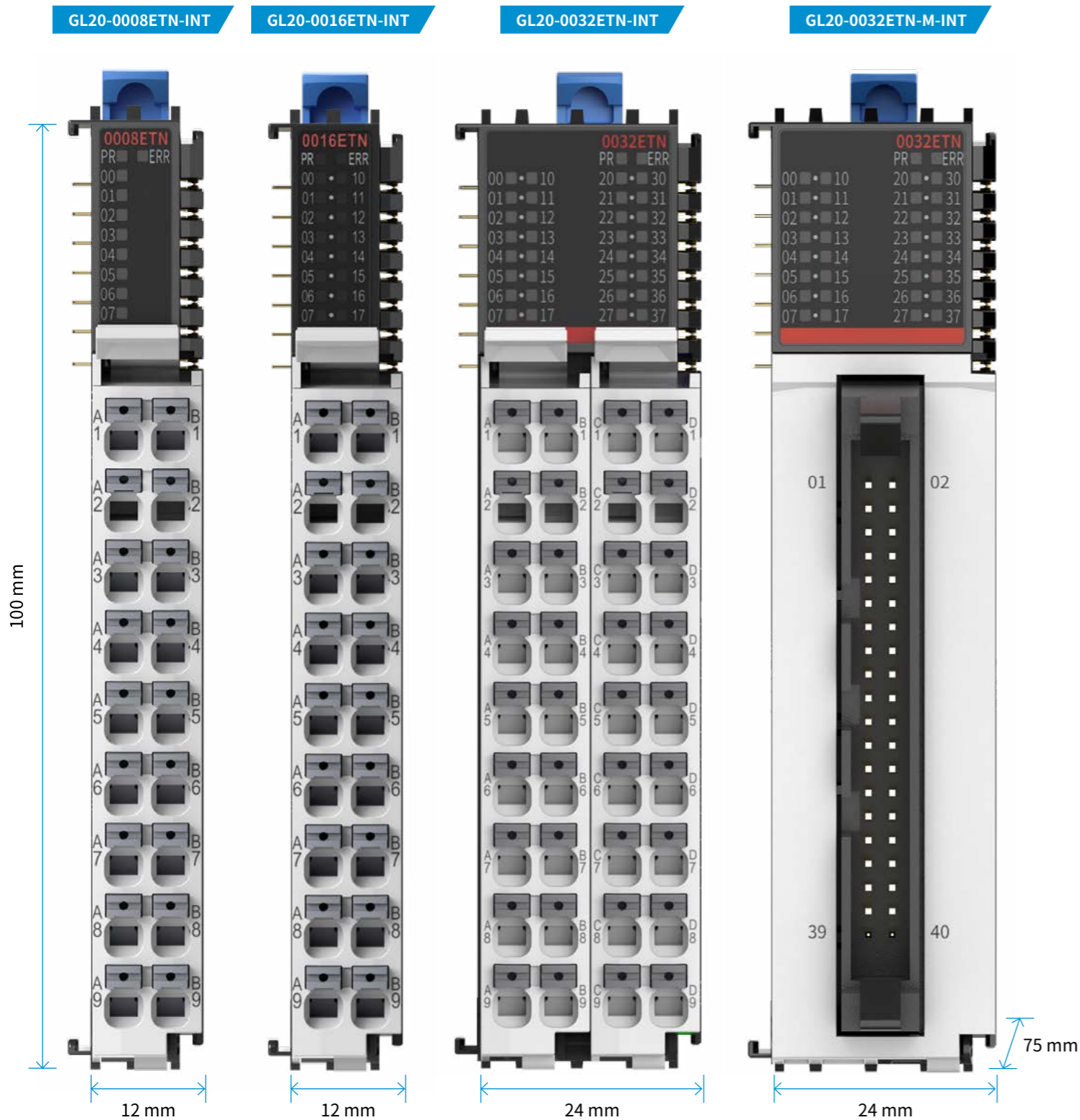
GL20 digital outputs (PNP)



Item	Specification		
Material code	01440780	01440776	01440787
Model	GL20-0008ETP-INT	GL20-0016-ETP-INT	GL20-0004ETP-2A-INT
IP rating	IP20		
Certification	CE & UL		
Ambient temperature			
Power supply			
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)		
Rated current of bus input power supply	80 mA (typical value at 5 V)	100 mA (typical value at 5 V)	80 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)		
Rated current of terminal input power supply	2 A (typical value at 24 V)		
Protection against terminal power reverse connection	Supported		
Module hot swap function	Not supported		
Output			
Output mode	Digital output, transistor high-side output		Digital output
Output type	Source type (PNP)		
Number of output channels	8	16	4
Output voltage class	24 VDC ± 10% (21.6 VDC to 26.4 VDC)		24 VDC (20.4 VDC to 28.8 VDC)
Load resistance range	12 Ω to 4000 Ω If > 4000 Ω ==> Open circuit fault		
Output load (resistive load)	0.5 A/point, 4 A/module		2 A/point 8 A/module
Output load (inductive load)	7.2 W/point, 24 W/module		28.8 W/point; 57.6 W/module
Output load (lamp load)	5 W/point, 18 W/module		10 W/point
Hardware response time (ON/OFF)	100 μs/100 μs		
Leakage current upon OFF	10 μA	50 mA	
Switching frequency	100 Hz for resistive load, 0.5 Hz for inductive load, 10 Hz for lamp load		100 Hz
Isolation	Yes		
Protective functions	Short circuit and overcurrent protection		

Expansion capability

GL20 digital outputs (NPN)

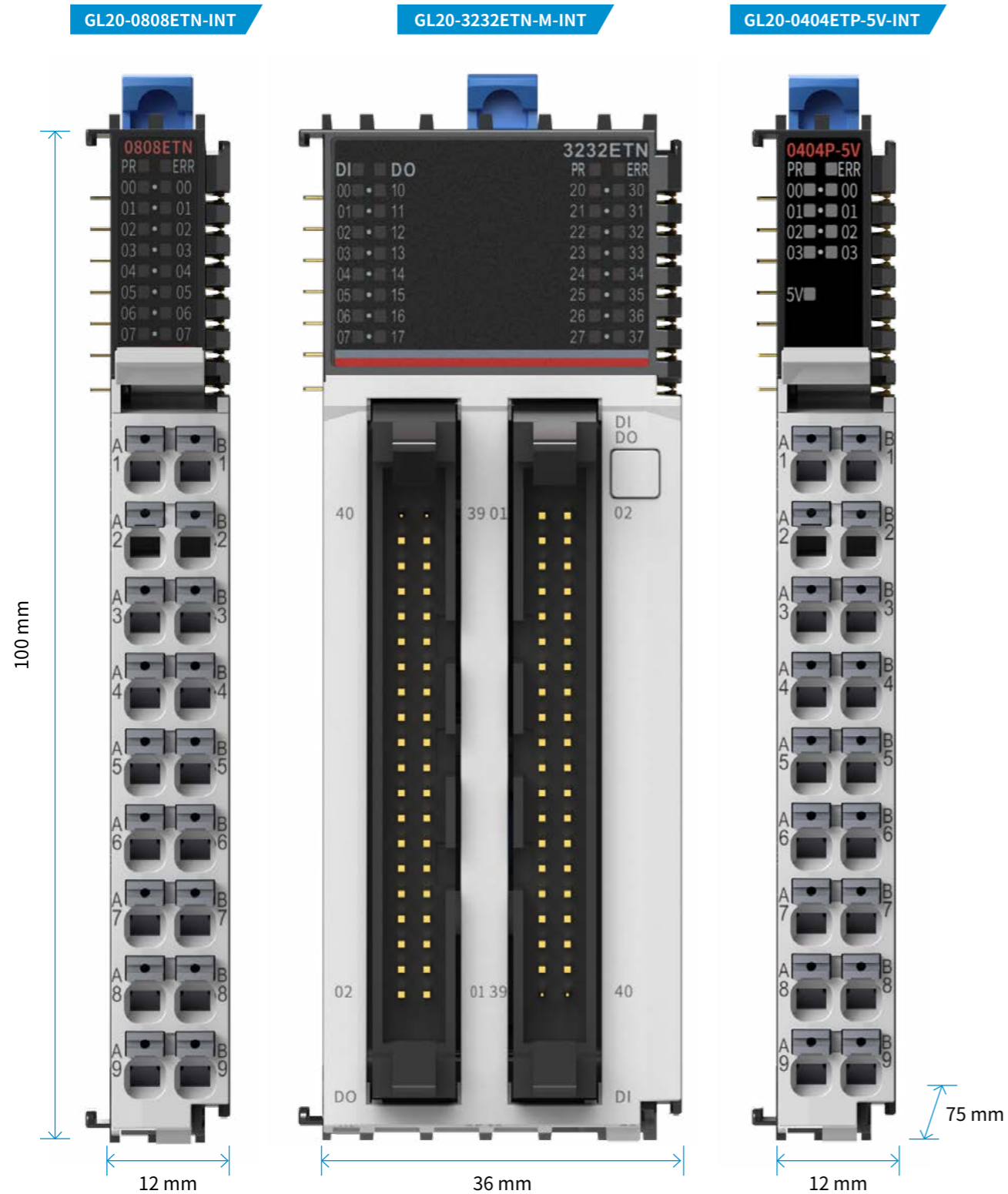


Requires external terminal block T024-K and extension cable

Item	Specification			
Material code	01440775	01440735	01440740	01440773
Model	GL20-0008ETN-INT	GL20-0016ETN-INT	GL20-0032ETN-INT	GL20-0032ETN-M-INT
IP rating	IP20			
Certification	CE & UL			
Ambient temperature	-20 °C to +55 °C			
Power supply				
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)			
Rated current of bus input power supply	115 mA (typical at 5 V)	145 mA (typical at 5 V)	85 mA (typical at 5 V)	85 mA (typical at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)			
Rated current of terminal input power supply	12 mA (typical value at 24 V)	12 mA (typical value at 24 V)	100 mA (typical value at 24 V)	100 mA (typical value at 24 V)
Module hot swap function	Not supported			
Output				
Output mode	Digital output, transistor low-side output			
Output type	Sink type (NPN)			
Number of output channels	8	16	32	32
Output voltage class	24 VDC ±10% (21.6 VDC to 26.4 VDC)			
Output load (resistive load)	0.5 A/point, 4 A/module	0.5 A/point, 4 A/module	0.5 A/point, 8 A/module	0.5 A/point, 8 A/module
Output load (inductive load)	7.2 W/point, 24 W/module	7.2 W/point, 24 W/module	7.2 W/point, 48 W/module	7.2 W/point, 48 W/module
Output load (lamp load)	5 W/point, 18 W/module	5 W/point, 18 W/module	5 W/point, 36 W/module	5 W/point, 36 W/module
Hardware response time (ON/OFF)	100 µs/100 µs			
Leakage current upon OFF	10 µA			
Switching frequency	100 Hz for resistive load, 0.5 Hz for inductive load, 10 Hz for lamp load			
Isolation	Yes			
Protective functions	Short circuit and overcurrent protection			

Expansion capability

GL20 digital inputs (PNP/NPN) & outputs (NPN)



Item	Specification		
Material code	01440769	01440777	01440788
Model	GL20-0808ETN-INT	GL20-3232ETN-M-INT	GL20-0404ETP-5V-INT
IP rating	IP20		
Certification	CE & UL		
Ambient temperature	-20°C to +55°C		

Power supply			
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)		
Rated current of bus input power supply	130 mA (typical value at 5 V)	250 mA (typical value at 5 V)	90 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC ~ 28.8 VDC)		
Rated current of terminal input power supply	12 mA (typical value at 24 V)	24 mA (typical value at 24 V)	150 mA (typical at 24 V)
Module hot swap function	Not supported		

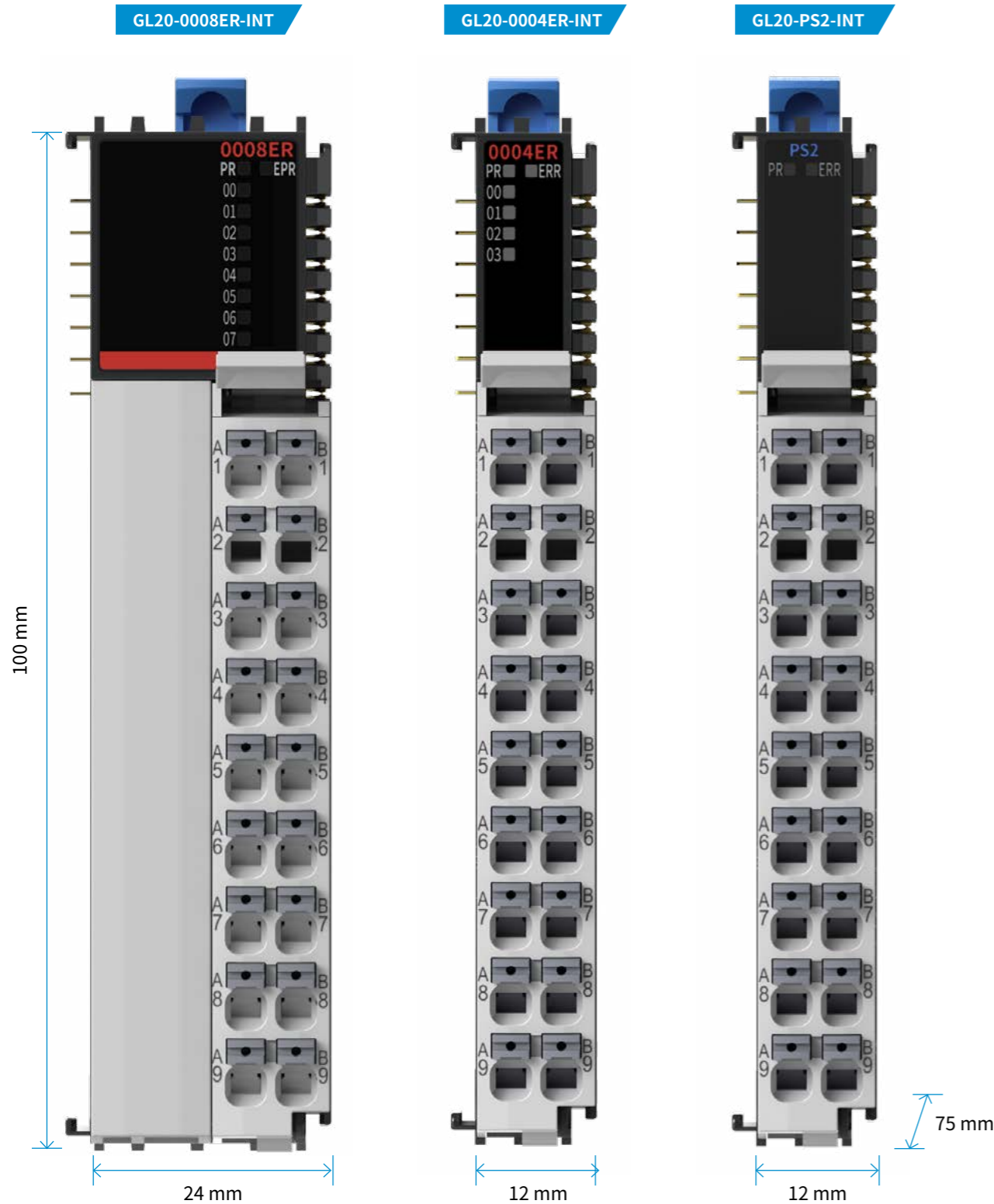
Input			
Input mode	Digital input		
Input type	Sink type (NPN)	Source/Sink type (PNP/NPN)	PNP
Number of input channels	8	32	4
Input voltage class	24 VDC ± 10% (21.6 VDC to 26.4 VDC)		5 VDC
Input current (typical)	4 mA (typical value at 24 V)		50 µA
ON voltage	> 15 VDC		> 2.4 VDC
OFF voltage	< 5 VDC		< 0.8 VDC
Hardware response time (ON/OFF)	100 µs/100 µs		ON: 50 ns
Software filter time	Supported		/
Input impedance	Reference value 5.3 k to 5.6 k		10 k
Isolation	Yes		Supported
Protective functions	/		/

Output			
Output type	Digital output, transistor low-side output		Digital output, 5 VDC
Output method	Sink type (NPN)		PNP
Output channel	8	32	4
Output voltage class	24 VDC ± 10% (21.6 VDC to 26.4 VDC)		5 VDC
Output load (resistive load)	0.5 A/point, 4 A/module	0.5 A/point, 8 A/module	20 mA/point, 80 mA/module
Output load (inductive load)	7.2 W/point, 24 W/module	7.2 W/point, 48 W/module	
Output load (lamp load)	5 W/point, 18 W/module	5 W/point, 36 W/module	0.1 W/point 0.4 W/module
Hardware response time ON/OFF	100 µs/100 µs		1 µs/1 µs
Leakage current upon OFF	10 µA		/
Switching frequency	100 Hz for resistive load, 0.5 Hz for inductive load, 10 Hz for lamp load		/
Isolation	Yes		
Protective functions	Short circuit and overcurrent protection		

Expansion capability

Relay outputs

Power supply expansion



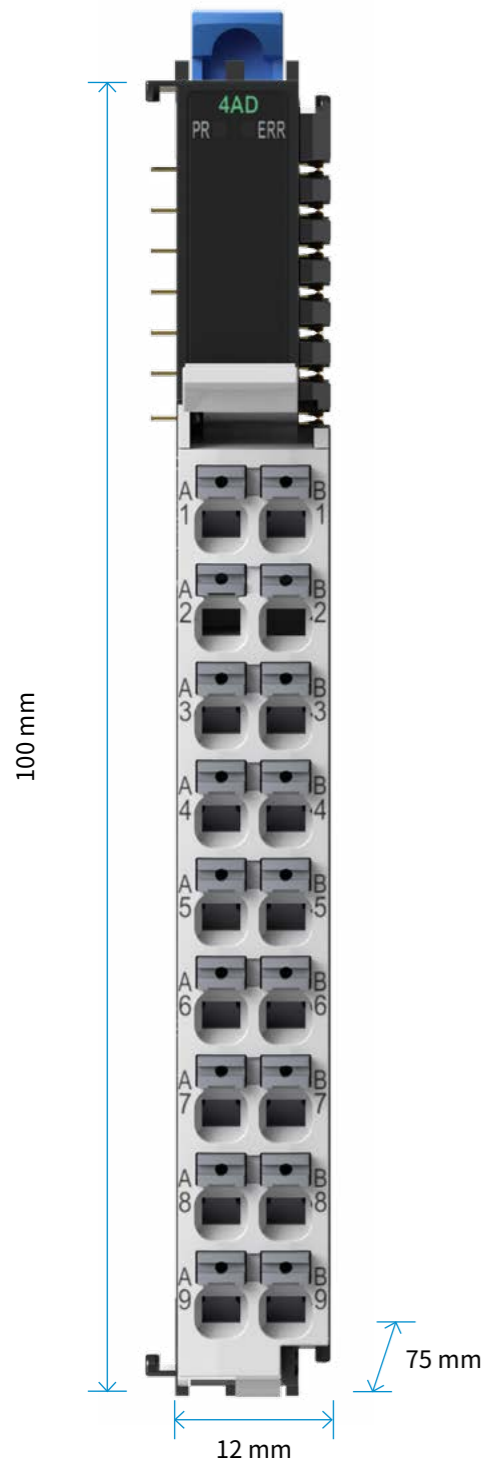
Item	Specification	Specification	Specification
Material code	01440772	01440786	01440767
Model	GL20-0008ER-INT	GL20-0004ER-INT	GL20-PS2-INT
IP rating	IP20		IP20
Certification	CE & UL		CE & UL
Ambient temperature	-20°C to +55°C		-20°C to +55°C
Power supply			
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)	90 mA (typical at 5 V)	5 VDC (4.5 VDC to 5.5 VDC)
Rated current of bus input power supply	110 mA (typical at 5 V)		2 A (typical at 5 V)
Rated voltage of terminal input power supply	24 VDC (21.6 VDC ~ 26.4 VDC)	24 VDC (20.4 VDC ~ 28.8 VDC)	24 VDC (20.4 VDC ~ 28.8 VDC)
Rated current of terminal input power supply	50 mA (typical value at 24 V)	30 mA (typical value at 24 V)	0.5 A (typical at 24 V)
Module hot swap function	Not supported		
Terminal current capacity			4 A max
24V input anti-reverse			Supported
Power isolation			Not supported
Output			
Output type	Digital output, relay output		
Output method	Dry contact		
Output channel	8	4	
Output voltage level	250 V AC/30 VDC		
Output load (resistive load)	2 A/point, 8 A/module		
Output load (inductive load)	1 A/point, 4 A/module		
Output load (lamp load)	30 W/point, 120 W/module		
Hardware response time ON/OFF	About 15ms		
Minimum load	5 VDC, 5 mA		
On-off level	No more than 6 times per minute (exceeding this will cause the switch to fail or even be damaged)		
Isolation	The backplate bus is isolated from the interface.	The backplate bus is isolated from the interface. Interface channels are isolated from each other.	
Output action display	When the output is in the driving state, the output indicator is on (software control)		
Output derating	Derating 50% when working at 55°C (at the same time, the output current of ON does not exceed 4A), or derate 10°C when all output points are ON		
Protective function	None		

NOTE: The rated current of the internal bus of the coupler is 2 A. If a higher current is required, a combination of the bus coupler and the power supply expansion module GL20-PS2 should be used. Consult with your local Inovance office for correct use of this module.

Expansion capability

GL20 analog inputs & outputs

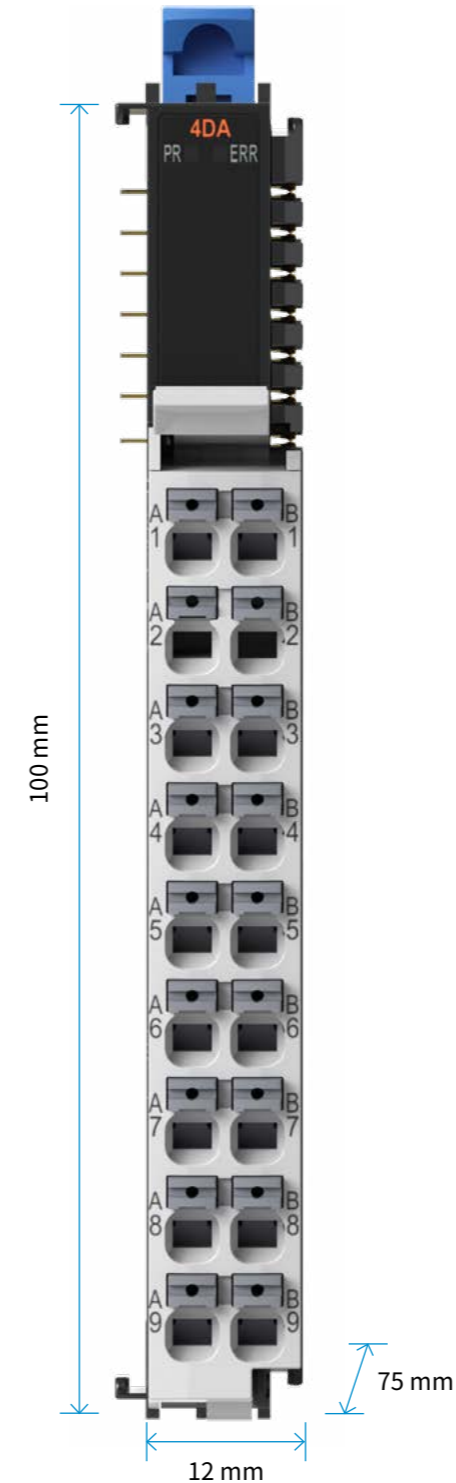
GL20-4AD-INT



16-bit resolution

Item	Specification
Material code	01440736
Model	GL20-4AD-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20 °C to +55 °C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	95 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	50 mA (typical value at 24 V)
Module hot swap function	Not supported
Input	
Input mode	Analog input
Input type	Voltage/Current
Number of input channels	4
Resolution	16-bit
Conversion time	60 us/channel
Voltage input range	±10 V, 0..10 V, ±5 V, 0..5 V, 1..5 V
Voltage input impedance	1 MΩ
Voltage input precision (25°C)	±0.1% (full range)
Voltage input precision (full temperature range)	±0.2% (full range)
Voltage input limit	±15 V
Voltage input diagnosis	Open-circuit detection not supported
Current input range	±20 mA, 0..20 mA, 4..20 mA
Current sampling impedance	250 Ω
Current input precision (25°C)	±0.1% (full range)
Current input precision (full temperature range)	±0.2% (full range)
Current input limit	Transient: ±30 mA; Average: ±24 mA
Current input diagnosis	Open-circuit detection supported only when input current configured as 4 mA to 20 mA
Isolation	Partially isolated (The power supply is isolated from the interface. The interface is isolated from the bus, but interface channels are not isolated from each other.)

GL20-4DA-INT

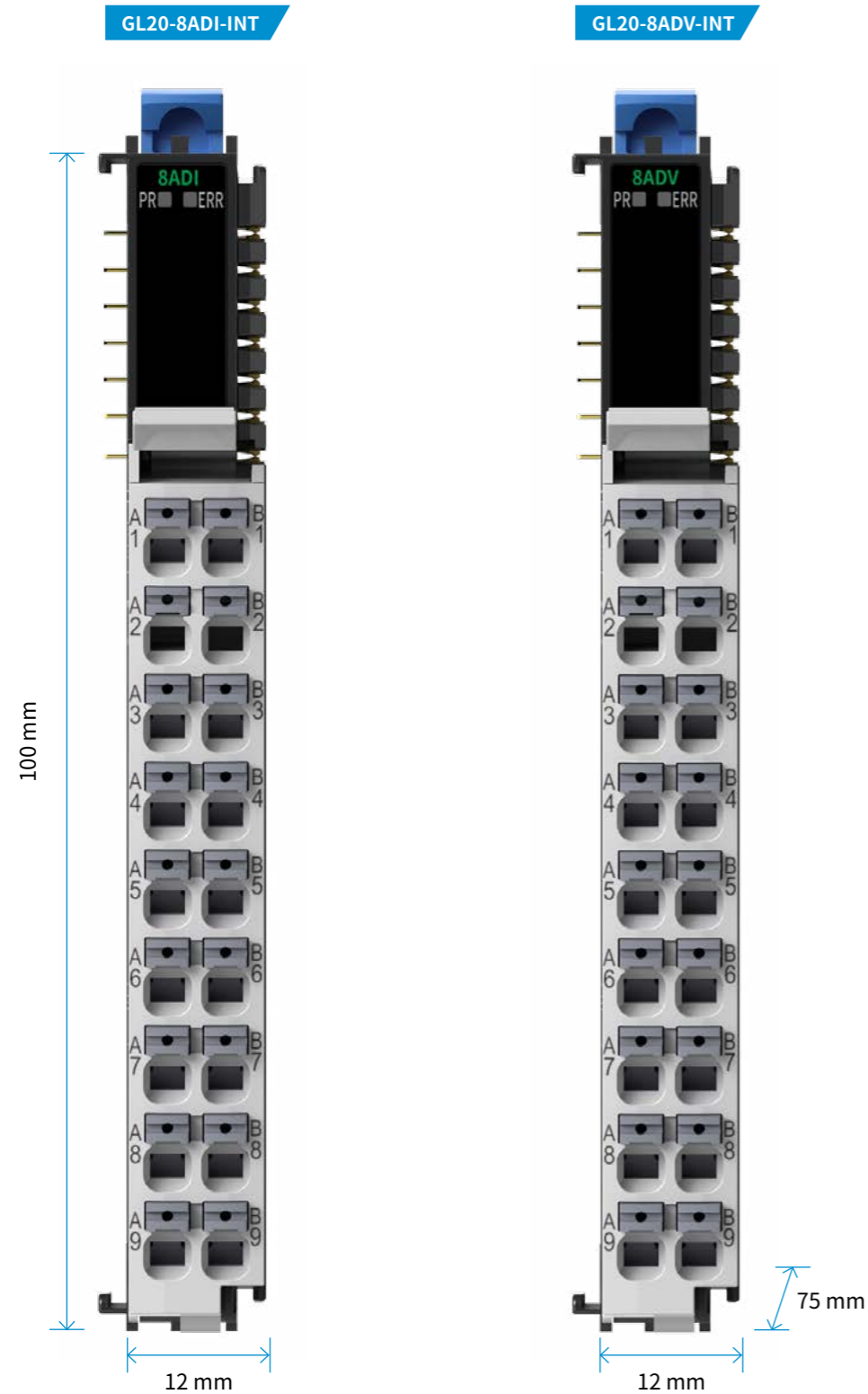


16-bit resolution

Item	Specification
Material code	01440741
Model	GL20-4DA-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20 °C to +55 °C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	70 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	100 mA (typical value at 24 V)
Module hot swap function	Not supported
Output	
Output mode	Analog output
Output type	Voltage/Current
Number of output channels	4
Resolution	16-bit
Conversion time	60 us/channel
Voltage output range	±10 V, 0..10 V, ±5 V, 0..5 V, 1..5 V
Voltage output load	1 kΩ
Voltage output precision (25°C)	±0.1% (full range)
Voltage output precision (full temperature range)	±0.5% (full range)
Voltage output diagnosis	Open-circuit detection and over-temperature protection supported
Current output range	0..20 mA, 4..20 mA
Current output load	0 Ω to 600 Ω
Current output precision (25°C)	±0.1% (full range)
Current output precision (full temperature range)	±0.5% (full range)
Current output diagnosis	Open-circuit detection and over-temperature protection supported
Isolation	Partially isolated (The power supply is isolated from the interface. The interface is isolated from the bus, but interface channels are not isolated from each other.)

Expansion capability

GL20 analog inputs



16-bit resolution

Item	Specification	
Material code	01440779	01440774
Model	GL20-8ADI-INT	GL20-8ADV-INT
IP rating	IP20	
Certification	CE & UL	
Ambient temperature	-20°C to +55°C	

Power supply		
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)	
Rated current of bus input power supply	65 mA (typical value at 5 V)	
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)	
Rated current of terminal input power supply	50 mA (typical 24 V)	

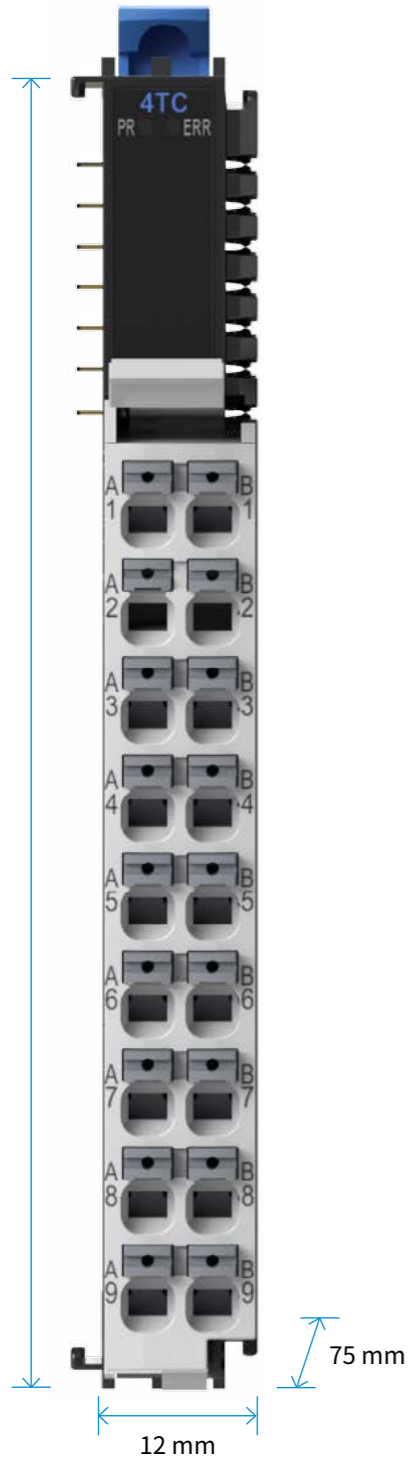
Input		
Input mode	Analog input	
Input type	Current input	Voltage input
Number of input channels	8	
Resolution	16 bits	
Conversion time	250 µs/channel	
Current input range	±20 mA, 0..20 mA, 4..20 mA	±10 V, 0..10 V, ±5 V, 0..5 V, 1..5 V
Current sampling impedance	90 Ω	>100 kΩ
Current input accuracy (25°C)	+/- 0.2% (full scale)	+/- 0.2% (full scale)
Current input accuracy ((full temperature range)	+/- 0.4% (full scale)	+/- 0.4% (full scale)
Current input limit	+/- 30 mA (transient), +/- 24 mA (Average), max damaging : 50 mA	+/- 15 V
Current input limit	Wire break detection supported only when the current input is set to 4 mA to 20 mA	Wire break detection supported only when the current input is set to 4 mA to 20 mA
Isolation	Partially isolated (The power supply is isolated from the interface. The interface is isolated from the bus, but interface channels are not isolated from each other.)	Partially isolated (The power supply is isolated from the interface. The interface is isolated from the bus, but interface channels are not isolated from each other.)
Input action display	/	/
Input derating	/	/

Expansion capability

GL20 temperature detection

GL20-4TC-INT

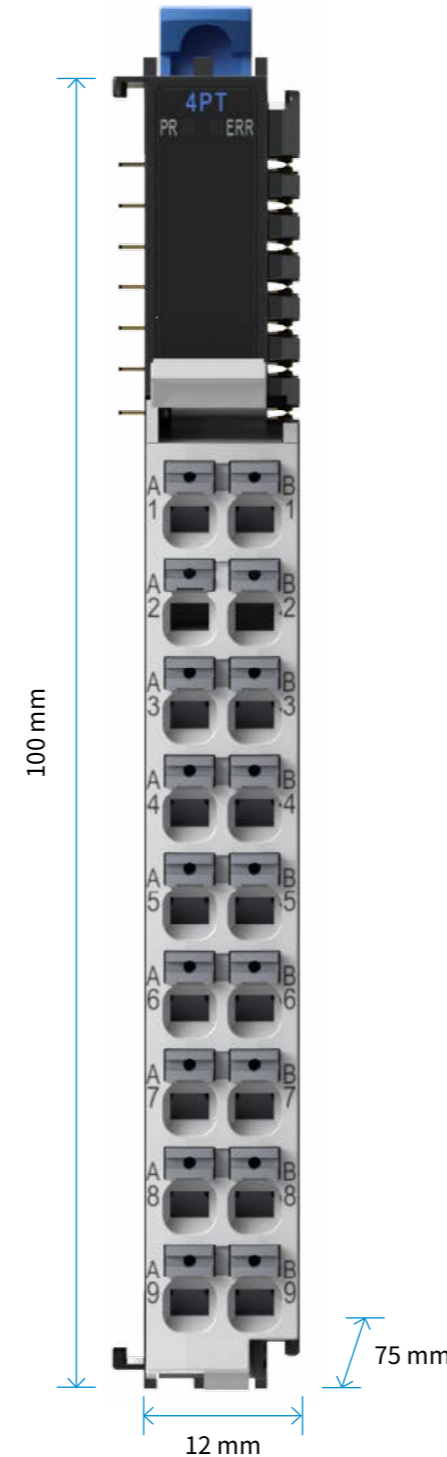
Item	Specification
Material code	01440784
Model	GL20-4TC-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20°C to +55°C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)
Rated current of bus input power supply	95 mA (typical at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC ~ 28.8 VDC)
Rated current of terminal input power supply	100 mA (typical at 24 V)
Module hot swap function	Not supported
24V input anti-reverse	Supported
Input	
Input channels	4 way
Digital resolution	24 bit
Display sensitivity	0.1°C, 0.1°F
Input terminal	Thermocouple input, thermocouple type: B, E, N, J, K, R, S, T
Compensation method	Internal cold junction compensation
Accuracy (25°C)	(±0.1%)±1°C (±100 mV full scale) + cold junction compensation error. Only ADC sampling accuracy is defined here. For specific temperature measurement accuracy, see user manual.
Accuracy (operating temperature -20°C to 55°C)	(±0.3%)±1°C (±100 mV full scale) + cold junction compensation error. Only ADC sampling accuracy is defined here. For specific temperature measurement accuracy, see user manual.
Isolation	Isolation between I/O terminals and power supply. No isolation between channels.
Input action display	None
Input derating	None
Overrun disconnection detection	Support



24-bit resolution

GL20-4PT-INT

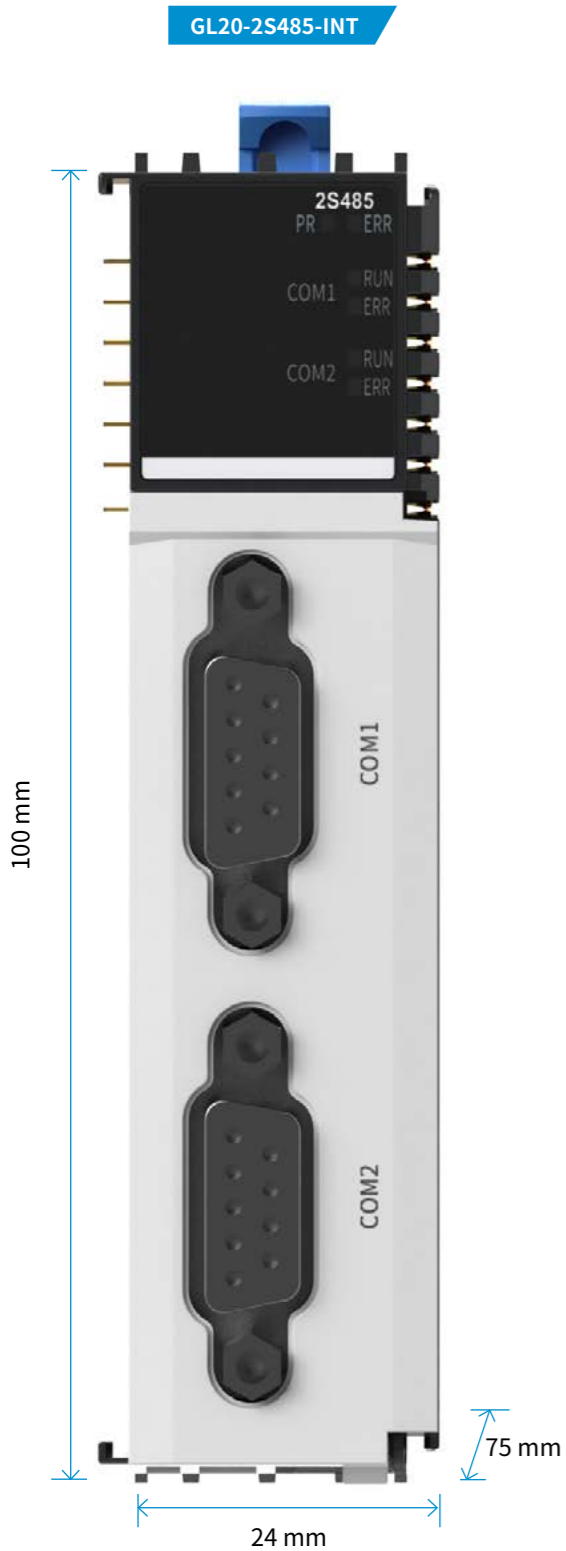
Item	Specification
Material code	01440781
Model	GL20-4PT-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20°C to +55°C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC ~ 5.25 VDC)
Rated current of bus input power supply	95 mA (typical at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC ~ 28.8 VDC)
Rated current of terminal input power supply	100 mA (typical at 24 V)
Module hot swap function	Not supported
24V input anti-reverse	Supported
Input	
Input channels	4 way
Digital resolution	24 bit
Display sensitivity	0.1°C, 0.1°F
Input terminal	4-channel thermal resistor input
Sensor type	Pt100, Pt500, Pt1000, Cu100, KTY84, NTC5K, NTC10K.
Wiring	Two-wire/three-wire
Accuracy (25°C)	(±0.1%), (0 mV to 1000 mV full scale). Only ADC sampling accuracy is defined here. For specific temperature measurement accuracy, see user manual.
Accuracy (operating temperature -20°C to 55°C)	(±0.3%), (0 mV to 1000 mV full scale). Only ADC sampling accuracy is defined here. For specific temperature measurement accuracy, see user manual.
The sampling period	250 ms, 500 ms, 1,000 ms /4 channels (configurable by software)
Filter time	0s...100s (configurable by software, default 5s)
Isolation	Isolation between I/O terminals and power supply. Isolation between channels.



24-bit resolution

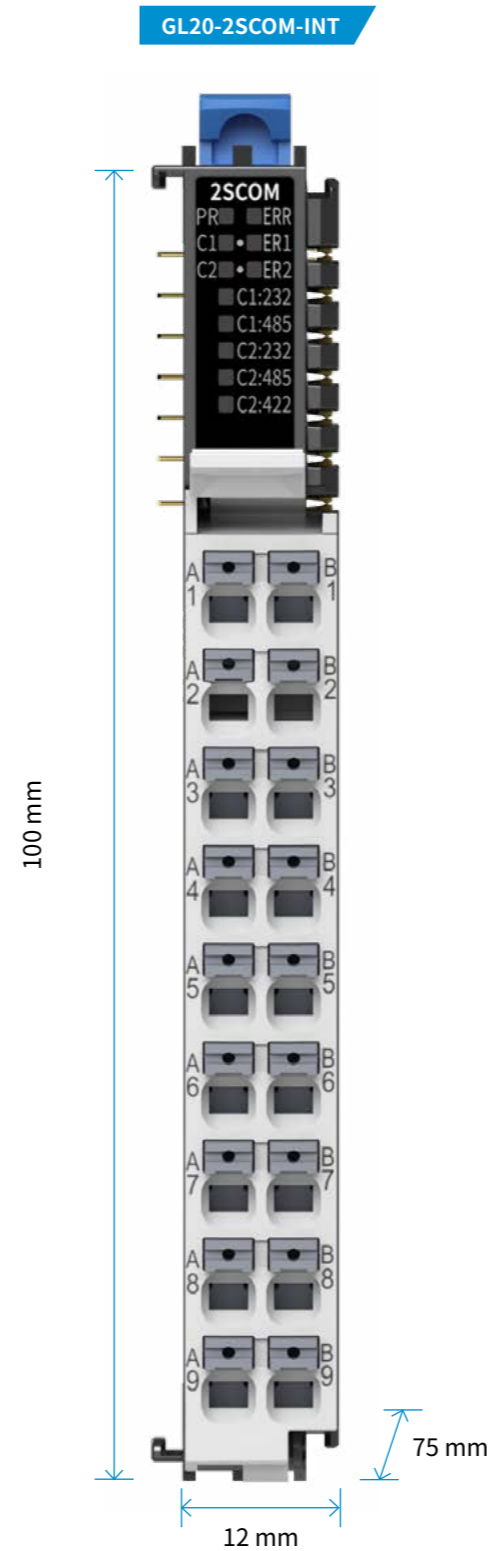
Expansion capability

GL20 communication



Item	Specification
Material code	01440768
Model	GL20-2S485-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20 °C to 55 °C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	170 mA (typical value at 5 V)
Module hot swap function	Not supported
Interface Specifications	
Terminal type	DB9 (female)
Number of channels	2 channels, no isolation between channels
Communication port	RS485
Communication mode	half - duplex
Baud rate	4800 bit/s 9600 bit/s 19200 bit/s 38400 bit/s 57600 bit/s 115200 bit/s
Data bits	7 or 8
Start bit	1
Stop bit	1 or 2
Parity bit	Even, odd, or none

NOTE: Can be used only with GL20-RTU-ECT32 bus coupler together with INOVANCE controllers, or as local expansion module of Easy PLC and AM320/52x controllers. Not supported by GL20-RTU-EIP, GL20-RTU-PN bus couplers and Third-Party controllers.



NOTE: Can be used only with GL20-RTU-ECT32 bus coupler together with INOVANCE controllers, or as local expansion module of Easy PLC and AM320/52x controllers. Not supported by GL20-RTU-EIP, GL20-RTU-PN bus couplers and Third-Party controllers.

Item	Specification
Material code	01440782
Model	GL20-2SCOM-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20 °C to +55 °C
Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	155 mA (typical value at 5 V)
Module hot swap function	Not supported
Interface Specifications	
Number of channels	2
Signal connection mode	Spring-clamp terminal, pluggable
Communication Interface type	RS232, RS422, RS485 The module supports 2 serial communication channels simultaneously. - 2 x RS232 - 2 x RS485 - 1 x RS232 and 1 x RS422 Only Port 2 can be configured to RS422
Baud rate	4800 bit/s 9600 bit/s 19200 bit/s 38400 bit/s 57600 bit/s 115200 bit/s
Data bits	7 or 8 bits. Default : 8bits
Start bit	1
Stop bits	1 or 2 bits. Default: 1 bit
Parity bit	Odd / even / no parity. Default: even
Number of slaves	Up to 31 Modbus slaves in RS485 mode Only one Modbus slave in RS232/RS422 mode
Isolation mode	Partially isolated (The power supply is isolated from the interface. The interface is isolated from the bus, but interface channels are not isolated from each other.)
Termination resistor	Shorted at the near end of the termination resistor port through user selection of the external wiring
Independant channel enable configuration	Supported
Diagnostic report configuration	Supported
Communication data refresh mode	Free refresh
Data flow control	No flow control, send/receive flow control, or only send flow control, or only receive flow control. Default: no flow control
Frame interval setting	0 to 10000, with a default value of 35 (in 0.1 bytes)
Data packet size	Supports 4, 8, 12, 16, 20, 28, 32, 36, 40, 44, 48, 52, 56, 60. Default value: 20 bytes
Send/receive buffer size	Fixed to 2k (in Bytes)
Buffer full policy	Discard new data or old data. Default: discard new data

Expansion capability

GL20 SSI Encoder Input

Item	Specification
Material code	01440783
Model	GL20-2SSI-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20°C to +55°C

Power supply	
Rated voltage of bus input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of bus input power supply	115 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	300 mA per channel
Module hot swap function	Not supported
Terminal power output protection	Over-current protection Short-circuit diagnosis Protection unlock
24V input anti-reverse	Supported

Differential input specifications	
Number of channels	2
Terminal type	SSI
Channel interface signal	SSI output: 2, clock output (C+, C-) SSI Input: 2, data input (D+, D-)
SSI signal voltage	5 V
Output voltage	2 x 24 V
Baud rate and transmission distance	100 kHz - 200 m 200 kHz - 120 m 300 kHz - 100 m 400 kHz - 80 m 500 kHz - 60 m 1 MHz - 25 m 1.25 MHz - 20 m 1.5 MHz - 15 m 2 MHz - 10 m Default: 500 kHz - 60 m
Matching resistor	120 Ω matching resistor provided at the receiving end of the SSI data signal inside the module
Isolation Mode	Digital Isolation from internal logic signals
Diagnostic report configuration	Supported
Independant channel configuration	Supported (24V short-circuit diagnosis, communication fault diagnosis, data frame error diagnosis)
Action taken upon encoder disconnection	Encoder output value set to 0
Signal type	Binary/Graycode Default: Gray code
Data type	Adjustable length: 10 bits to 32 bits Default: 25 bits

GL20 High speed counter

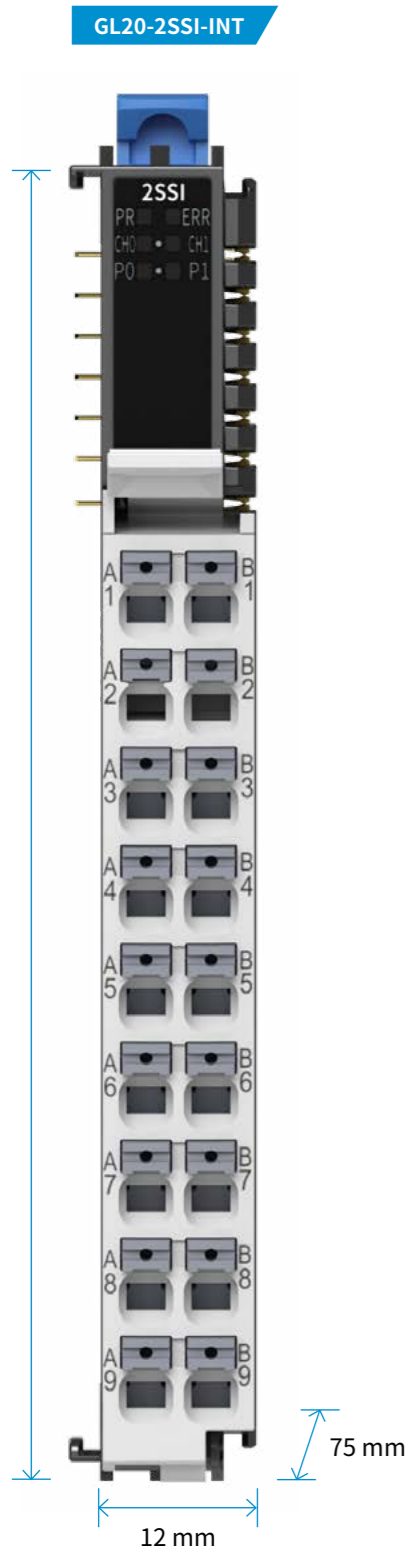
Item	Specification
Material code	01440920
Model	GL20-2HC-INT
IP rating	IP20
Certification	CE & UL
Ambient temperature	-20°C to +55°C

Power supply	
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	95 mA (typical value at 5 V)
Rated voltage of terminal input power supply	24 VDC (20.4 VDC to 28.8 VDC)
Rated current of terminal input power supply	50 mA (typical value at 24 V)
Module hot swap function	Not supported

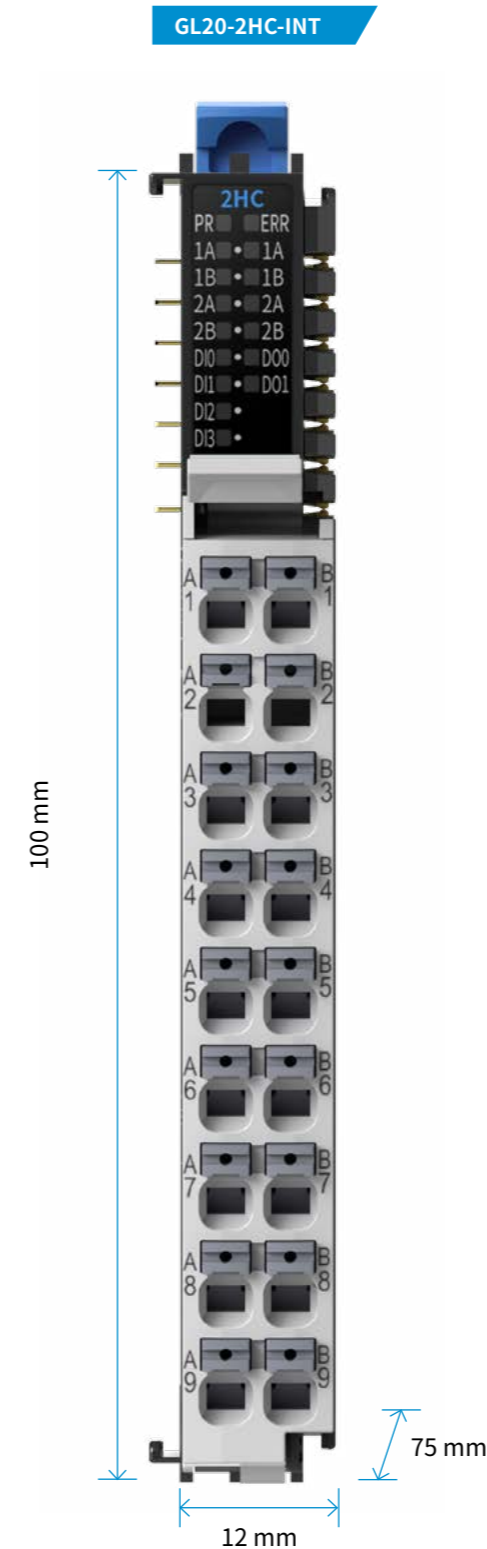
Differential input specifications	
Number of channels	2
Terminal type	Counter input (single-phase pulse + direction, AB phase, CW/CCW)
Channel interface signal	Differential input
Differential input voltage level	RS422 level (logic 0 < 200 mA, logic 1 > 200 mA)
Maximum input frequency	4 MHz
Disconnection detection	Supported
ON/OFF response time	100ns/100ns
Counting range	32 bits
Frequency measurement range	0.04 Hz to 4 MHz
Counting accuracy	100 ppm
Isolation	Yes
Input action display	When the input is in the driving state, the input indicator is on (software control system)

Single-ended input specifications	
Input mode	Digital input
Input type	Single-ended input source/sink type PNP/NPN
Input channel	4 (2 counting AB phase channels)
Frequency measurement range	0.04 Hz to 4 MHz
Disconnection detection	Not supported
Input voltage level	24 VDC (20.4 VDC to 28.8 VDC)
Input current (typical)	50 mA (typical value at 24 V) ON voltage > 15 VDC OFF voltage < 5 VDC Hardware response time (ON/OFF) 250 us/250 us
Software filter time	Supported
Input impedance	Reference value 5.3 k to 7.6 k
Isolation	Yes

Output specifications	
Output mode	Digital output
Output type	Sink type (NPN)
Number of output channels	2
Output voltage class	24 VDC (20.4 VDC to 28.8 VDC)
Output load (resistive load)	0.5 A/point, 1 A/module
Output load (inductive load):	7.2 W/point, 14.4 W/module
Output load (lamp load)	5 W/point, 10 W/module
Hardware response time (ON/OFF)	1 μs/1 μs
Leakage current upon OFF	10 μA
Switching frequency	100 Hz for resistive load, 0.5 Hz for inductive load, 10 Hz for lamp load
Isolation	Yes



NOTE: Not supported by GL20-RTU-EIP.

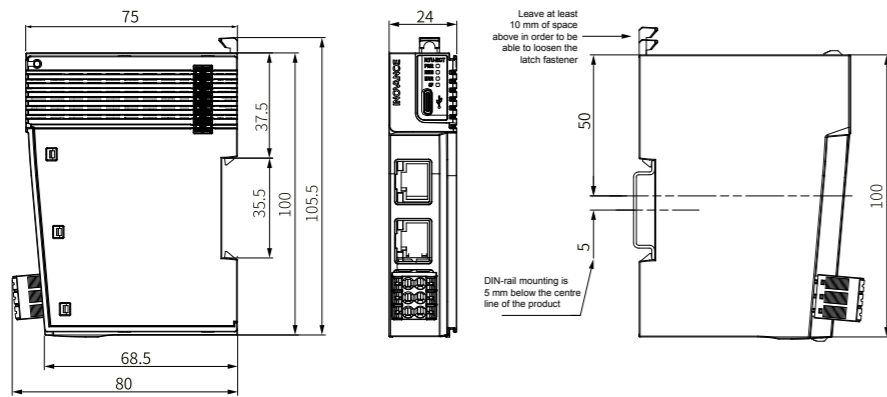


NOTE: Only supported by GL20-RTU-ECT32 and GL20-RTU-PN bus couplers. Cannot be used with GL20-RTU-EIP bus coupler, nor as local expansion module in Easy PLC and AM320/52x controllers.

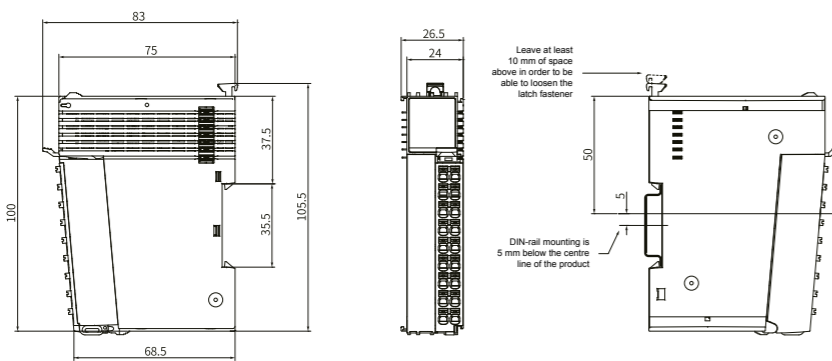
External dimensions

GL20 modules and accessories

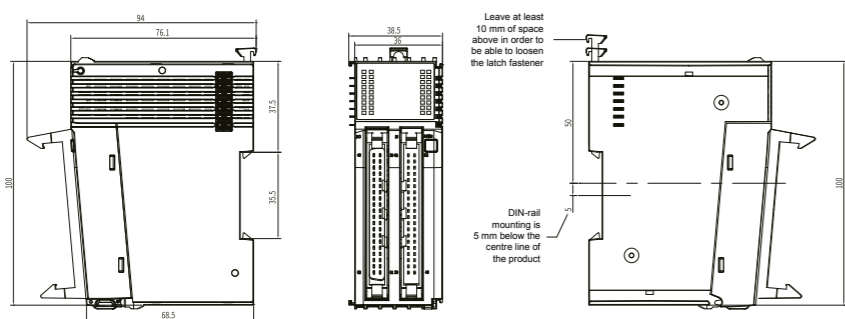
GL20-RTU-EIP-INT, GL20-ECT-RTU32-INT, GL20-RTU-PN-INT



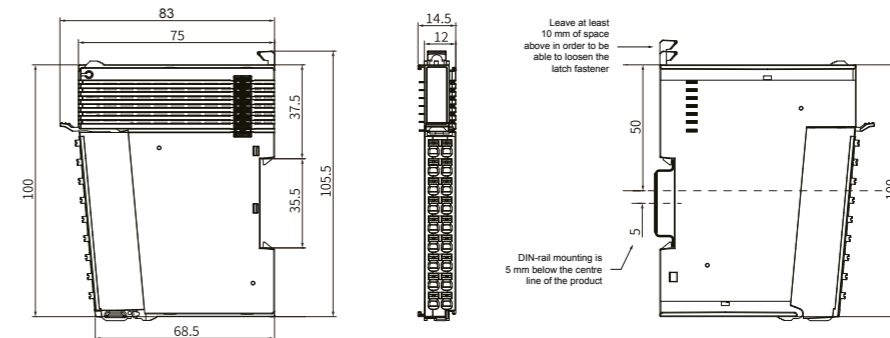
GL20-0008ER-INT, GL20-3200END-INT, GL20-0032ETN-INT, GL20-2S485-INT



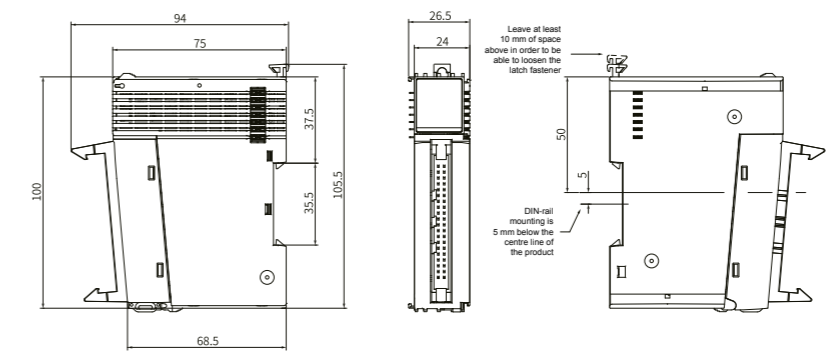
GL20-3232ETN-M-INT



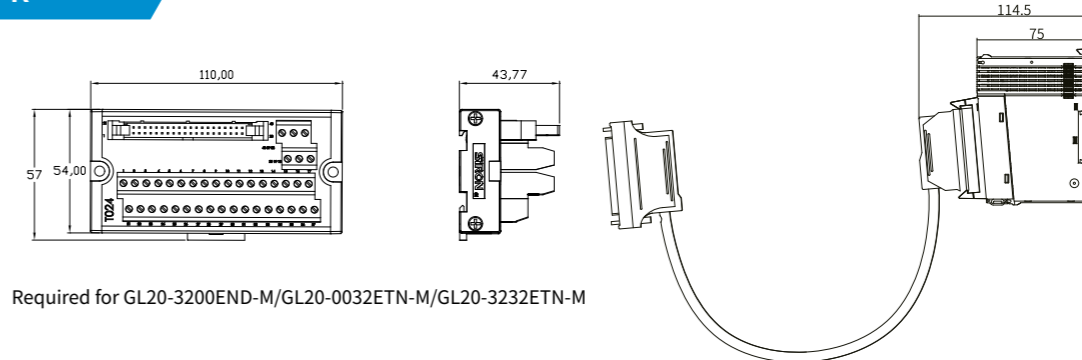
GL20-1600END-INT, GL20-0800END-INT, GL20-0008ETP-INT, GL20-0016ETP-INT, GL20-0016ETN-INT, GL20-0808ETN-INT, GL20-4AD-INT, GL20-4DA-INT, GL20-4PT-INT, GL20-4TC-INT, GL20-PS2-INT, GL20-0004ER-INT, GL20-0004ETP-2A-INT, GL20-0004ETN-2A-INT, GL20-8ADI-INT, GL20-8ADV-INT, GL20-2SSI-INT, GL20-2HC-INT, GL20-2SCOM-INT



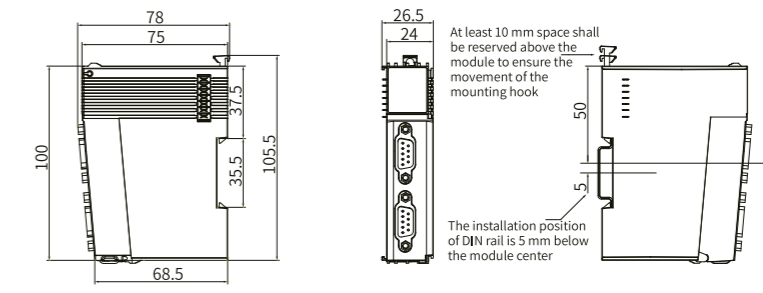
GL20-3200END-M-INT, GL20-0032ETN-M-INT



T024-K



GL20-2S485-INT



Selection chart

GL20 modules and accessories

Type	Model	Product code	CE	UL	Description
Bus coupler	GL20-RTU-ECT32-INT	01440654	YES	YES	EtherCAT slave bus coupler. Up to 32 expansion modules can be added
	GL20-RTU-PN-INT	01440785	YES	YES	PROFINET slave bus coupler. Up to 16 expansion modules can be added
	GL20-RTU-EIP-INT	01440924	YES	YES	EtherNet/IP slave bus coupler. Up to 16 expansion modules can be added
Digital inputs	GL20-1600END-INT	01440737	YES	YES	16 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
	GL20-0800END-INT	01440771	YES	YES	8 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
	GL20-3200END-INT	01440739	YES	YES	32 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
	GL20-3200END-M-INT	01440773	YES	YES	32 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms (Requires T024-K terminal block and extension cable)
Digital outputs	GL20-0008ETP-INT	01440780	YES	YES	8 x source (PNP) transistor outputs module. Response time 100 µs
	GL20-0008ETN-INT	01440775	YES	YES	8 x sink (NPN) transistor outputs module. Response time 100 µs
	GL20-0016ETP-INT	01440776	YES	YES	16 x source (PNP) transistor outputs module. Response time 100 µs
	GL20-0004ETP-2A-INT	01440787	YES	YES	4 x source (PNP) transistor outputs module. Response time 100 µs
	GL20-0016ETN-INT	01440735	YES	YES	16 x sink (NPN) transistor outputs module. Response time 100 µs
	GL20-0032ETN-INT	01440740	YES	YES	32 x sink (NPN) transistor outputs module. Response time 100 µs.
	GL20-0032ETN-M-INT	01440773	YES	YES	32 x sink (NPN) transistor outputs module. Response time 100 µs. (Requires T024-K terminal block and extension cable)
Relay outputs	GL20-0008ER-INT	01440772	YES	YES	8 x relay outputs module. Response time 15 ms
	GL20-0004ER-INT	01440786	YES	YES	4 x relay outputs module. Response time 15 ms
Digital inputs & outputs	GL20-0808ETN-INT	01440769	YES	YES	8 x sink (NPN) digital inputs and 8 x sink (NPN) transistor outputs module. Response time 100 µs. Input filter from 0.25 ms to 32 ms
	GL20-3232ETN-M-INT	01440777	YES	YES	32 x source (PNP)/sink (NPN) digital inputs and 32 x sink (NPN) transistor outputs module. Response time 100 µs. Input filter from 0.25 ms to 32 ms. (Requires T024-K terminal block and extension cable)
	GL20-0404ETP-5V-INT	01440788	YES	YES	4 x source (PNP)/sink (NPN) digital inputs 5V and 4 source (PNP) digital outputs 5V
Analog inputs & outputs	GL20-4AD-INT	01440736	YES	YES	4 x analog inputs module (Resolution 16 bits, sampling time 250 µs)
	GL20-4DA-INT	01440741	YES	YES	4 x analog outputs module (Resolution 16 bits, sampling time 250 µs)
	GL20-8ADI-INT	01440779	YES	YES	8 x analog inputs module (Resolution 16 bits, sampling time 250 µs)
	GL20-8ADV-INT	01440774	YES	YES	8 x analog inputs module (Resolution 16 bits, sampling time 250 µs)
Temperature detection	GL20-4PT-INT	01440781	YES	YES	4 x channel thermal resistance inputs temperature detection module (Pt 100, Pt 500, Pt 1000, Cu 100, KTY 84, NTC 5K, NTC 10K)
	GL20-4TC-INT	01440784	YES	YES	4 x channel thermocouple inputs temperature detection module (Thermocouple type: B,E,N,J,K,R,S,T)
Power supply expansion	GL20-PS2-INT	01440767	YES	YES	Power supply expansion module. The rated current of the internal bus of the coupler is 2 A. If a higher current is required, a combination of the bus coupler and the power supply expansion module GL20-PS2 should be used
Encoder input	GL20-2SSI-INT	01440783	YES	YES	2 x SSI encoder channels
	GL20-2HC-INT	01440920	YES	YES	2 x RS422 high-speed counter channels
Communication	GL20-2S485-INT	01440768	YES	YES	2 x channels RS485
	GL20-2SCOM-INT	01440782	YES	YES	2 x channels (2x RS232, 2xRS45, 1 x RS232 and 1xRS422)
Accessories	XA3210A-40-L0.5M-01	15310167	YES		I/O extension cable - 0.5 m length with 2 FCN connectors (Required for GL20-3200END-M/GL20-0032ETN-M/GL20-3232ETN-M)
	XA3210A-40-L2M-01	15310166	YES		I/O extension cable - 2 m length with 2 FCN connectors (Required for GL20-3200END-M/GL20-0032ETN-M/GL20-3232ETN-M)
	T024-K	15020452	YES		40PIN MIL screw terminal block (Required for GL20-3200END-M/GL20-0032ETN-M/GL20-3232ETN-M)

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