Programmable Logic Controller

Genie Pro

- Supports up to 60 I/Os (24DI+20DO+8AI+8AO)
- Expansion module support upto 12 expansions
- Relay & Transistor Base Modules with LCD & LED display
- Backlit LCD Screen with 6 Line Display
- High Speed I/P up to 5KHz (4 Inputs)
- PWM Output for transistor model up to 2 KHz (4 Outputs)
- Analog input & output(0-20mA/4-20mA /0-10V)
- Analog RTD Input - PT100 & PT1000 Sensor
- Built-In Ethernet port with Webserver connectivity
- Detachable optional SD Card OR RS485 serial port interface support
- Micro SD Card for Application transfer & Data Logging
- Wide Operating temperature (-20 °C to +55 °C)
- Ladder & FBD Programming support
- Programming Software: Genie Pro Soft
- CE, REACH, UKCA, & UL Certified

Ordering Information

Base Models With LCD Display :

Cat ID	Description
GP230URL	110-240 VAC/DC Base module with LCD, 8 Digital inputs & 4 Relay outputs
GP124DRL	12-24 VDC Base module with LCD, 8 DI (4 High speed + 4 Analog IPs)& 4 Relay outputs
GP024URL	24 VAC/DC Base module with LCD, 8 Digital inputs & 4 Relay outputs
GP024DTLL	24 VDC, Base module with LCD, 8 DI (4 High speed + 4 Analog IPs) & 4 Transistor OP (Low Side)
GP024DTHL	24 VDC, Base module with LCD, 8 DI (4 High speed + 4 Analog IPs) & 4 Transistor OP (High Side)

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Base Models Without LCD Display :

Cat ID	Description
GP230URB	110-240 VAC/DC Base module with LED, 8 Digital inputs & 4 Relay outputs
GP124DRB	12-24 VDC Base module with LED, 8 DI (4 High speed + 4 Analog IPs)& 4 Relay outputs
GP024URB	24 VAC/DC Base module with LED, 8 Digital inputs & 4 Relay outputs
GP024DTLB	24 VDC, Base module with LED, 8 DI (4 High speed + 4 Analog IPs) & 4 Transistor O (Low Side)
GP024DTHB	24 VDC, Base module with LED, 8 DI (4 High speed + 4 Analog IPs) & 4 Transistor OP (High Side)

Digital Expansion Models :

Cat ID	Description
GP230UR16E	110-240 VAC/DC Digital Expansion Module with 8 Input & 8 relay output
GP124DR16E	12-24 VDC Digital Expansion Module with 8 Input & 8 relay output
GP024UR16E	24 VAC/DC Digital Expansion Module with 8 Input & 8 relay output
GP024DTL16E	24 VDC Digital Expansion Module with 8 Input & 8 transistor low side output
GP024DTH16E	24 VDC Digital Expansion Module with 8 Input & 8 transistor high side output
GP230UR08E	110-240 VAC/DC Digital Expansion Module with 4 Input & 4 relay output
GP124DR08E	12-24 VDC Digital Expansion Module with 4 Input & 4 relay output
GP024UR08E	24 VAC/DC Digital Expansion Module with 4 Input & 4 relay output
GP024DTL08E	24 VDC Digital Expansion Module with 4 Input & 4 transistor low side output
GP024DTH08E	24 VDC Digital Expansion Module with 4 Input & 4 transistor high side output

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Analog Expansion Model :

Cat ID	Description
GP124DM20E	12-24 VDC 2 Analog Input Expansion module (0-20mA/4-20mA /0-10V)
GP124DH20E	12-24 VDC 2 Analog RTD Input Expansion, PT100 & PT1000 Sensor
GP024DQ02E	24 VDC 2 Analog Output Expansion module (0-20mA/4-20mA /0-10V)

Accessories :

Cat ID	Description
GPADCP	Accessories, Genie-PRO RS485 communication module (Biased Module)
GPA0CN	Accessories, Genie-PRO RS485 communication module (Unbiased Module)
GPA0MC	Accessories, Genie-PRO Micro SD card Interface

Genie Pro

Technical Datasheet

GP230URL, GP230URB, GP230UR08E, GP230UR16E

Cat ID	GP230URL	GP230URB	GP230UR08E	GP230UR16E
	BASE MODULE		EXTENSION MODULE	
Product Standard	IEC 61131-2:2017			
Supply Characteristics				
Supply Voltage	110 - 240 V AC/DC			
Supply Voltage Range	85 V AC to 265 V AC / 100 V DC to 253 V DC			
Power Consumption	10VA, @265VAC 4W, @253VDC	10VA,@265VAC 4W, @253VDC	6.5VA, @265VAC 2.5W,@253VDC	10VA,@265VAC 4W, @253VDC
Inrush Current Added	3.8 A @265VAC 2.8 A @265VDC	3.8 A @265VAC 2.8 A @265VDC	3.8 A @265VAC 2.8 A @265VDC	3.8 A @265VAC 2.8 A @265VDC
Permissable Frequency	50 Hz to 60Hz (AC) (+/-3 Hz)			
Reverse polarity protection	Yes			
Accuracy of the real-time clock And Battery Backup	Typ. ± 2 s/day at 25°C ,10Years at 25° C			
Digital Input				
Number of Inputs	8		4	8
Number of high speed inputs	NA		NA	NA
Analog inputs	NA		NA	NA
Type Of Inputs	Resistive/Sinking			
Digital I/P Voltage range	0-265 VAC / 0-253 VDC			
Input Current (I1...I8)	I1...I8 AC ≈ 1.9469 mA @265VAC I1...I8 DC ≈ 1.3729 mA @265VDC		I1...I4 AC ≈ 1.9469 mA @265VAC I1...I4 DC ≈ 1.3729 mA @265VDC	I1...I8 AC ≈ 1.9469 mA @265VAC I1...I8 DC ≈ 1.3729 mA @265VDC
Impedance (I1...I4 / I5...I8)	I1...I8: Min 400kΩ		I1...I4 : Min 400kΩ	I1...I8 : Min 400kΩ
Level (logic 0)	<40 VAC, <30 VDC			
Release current (logic 0)	0.2824 mA - 40 V AC / 0.1349 mA - 30 V DC			
Level (logic 1)	> 79 VAC, >79 VDC			
Make Current (logic 1)	0.5371 mA - 79 V AC / 0.361 mA - 79 V DC			
Max I/P frequency	Normal Input: Max 5Hz			
Isolation between power supply and inputs	None			
Isolation Between Inputs	None			
Protection against polarity inversion	Yes			
Status Indicator	On Display (LCD), Only on LCD base		On Display (LCD), Only on LCD base	
Digital Relay Output				
Number of Normal inputs	4		4	8
Output Hardware	Relay (Normally open)			
Max. Output Load	8 A (Res.) @ 230 VAC / 8A @ 30 VDC)		5A (Res.) @ 230 VAC / 5A @ 30 VDC	
Minimum load	12 V, 5 mA		12 V, 5 mA	
Max. Operation	Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet: 1. 8A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.		Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet: 1. 5A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.	
Operating time	8 ms for bases		8 ms for extensions	
Release time	5 ms for bases		5 ms for extensions	
Built In Protections against short circuit	Against Short-Curcuits: None, Against Over voltages: None			
Status indicator	On Display (LCD)			
Cable length	≤ 30meter			
Weight (approx.)	236 g	205 g	123 g	220 g

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Technical Datasheet

GP124DRL, GP124DRB, GP124DR08E, GP124DR16E

Cat ID	GP124DRL	GP124DRB	GP124DR08E	GP124DR16E
	BASE MODULE		EXTENSION MODULE	
Product Standard	IEC 61131-2: 2017			
Supply Characteristics				
Supply Voltage	12 - 24 VDC			
Supply Voltage Range	10.8 DC - 28.8 VDC			
Power Consumption	3W Max	3W Max	2W Max	5.5W Max
Inrush Current	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC
Reverse polarity protection	Yes	Yes	Yes	Yes
Accuracy of the real-time clock And Battery Backup	Typ. ± 2 s/day at 25°C (10Years at 25° C)		NA	
Digital Input				
Number of Inputs	8		4	8
Type of Inputs	Resistive / Sinking			
Digital I/P Voltage range	0-28.8 V DC			
Impedance (I1...I4 / I5...I8)	I1...I4 : Min 40k, I5...I8 Min 13.4k		I1...I4 : Min 13.4k	I1...I8 : Min 13.4k
Max. Input current (I1...I4 / I5...I8)	≈ 0.6386 mA @28.8V (I1....I4) ≈ 3.7808 mA @28.8V (I5....I8)		≈ 3.7808 mA @28.8V I1....I4	≈ 3.7808 mA @28.8V I1....I8
Isolation Between power Supply & Inputs	None		None	
Isolation between inputs	None		None	
Protection against polarity inversion	Yes		Yes	
Used as Digital				
Number of Normal inputs	8 (I1, I2, I3, I4,I5, I6, I7, I8)		4 (I1...I4)	8 (I1...I8)
Level (Logic 0)	< 5 VDC Logic level is same for both base & expansion			
Release Current (logic 0)	0.1109 mA (I1...I4), 0.2890 mA (I5...I8)		0.2890 mA (I1...I4)	0.2890 mA (I1...I8)
Level (logic 1)	< 8.5 VDC Logic level is same for both base & expansion			
Make Current (logic 1)	0.1885 mA (I1...I4), 0.7949 mA (I5...I8)		0.7949 mA (I1...I4)	0.7949 mA (I1...I8)
Response Time	1-2 Cycle time (normal input)			
Max. I/P frequency	Normal input: Max. 5 Hz			
Max Cable Length (Shielded)	Max 100 meter			
Used as High speed				
Number of high speed	4 (I5, I6, I7, I8)		NA	
Max. I/P frequency	High speed Input: Max 5kHz		NA	
High speed input characteristic	With duty cycle 50 ±5% Logic 0 < 5V, Logic 1 > 8.5V		NA	
Max Cable Length (Shielded)	Max 100 meter			
Used as Analog				
Analog inputs	4 (I1, I2, I3, I4)		NA	
Analog I/P Voltage Range	0 VDC-10 VDC & 0 VDC-28.8V power supply		NA	
Max Value Without destruction	28.8V DC Max		NA	
Resolution	12 bits 0-28.8V supply, 10 bits 0-10V		NA	
Maximum error in 0-10V mode	±5% of full scale at 25° C		NA	
Maximum error in 0-10V mode	±6.5% of full scale at 55° C		NA	
Maximum error in 0-V power supply mode	±5% of full scale at 25° C (77° F)		NA	
Maximum error in 0-V power supply mode	±6.5% of full scale at 25° C		NA	
Potentiometer control	10kΩ Max		NA	
Max Cable Length (Shielded)	Max 10 meter			

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Technical Datasheet

GP124DRL, GP124DRB, GP124DR08E, GP124DR16E

Digital Relay Output				
No. of Outputs	4		4	8
Output Hardware	Relay (Normally open)			
Max. Output Load	8 A (Res.) @ 230 VAC / 8A @ 30 VDC		5A (Res.) @ 230 VAC / 5A @ 30 VDC	
Minimum Load	12V, 5mA		12V, 5mA	
Max. Operation	Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet): 1. 8A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.		Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet): 1. 5A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.	
Operating time	8 ms for bases		8 ms for extensions	
Release time	5 ms for bases		5 ms for extensions	
Built-In protections against short circuit	Against Short circuits: None Against Over voltages: None		Against Short circuits: None Against Over voltages: None	
Status Indicator	On Display (LCD)		On Display (LCD)	
Weight (approx.)	225 g	195 g	120 g	210 g

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Technical Datasheet

GP024URL, GP024URB, GP024UR08E, GP024UR16E

Cat ID	GP024URL	GP024URB	GP024UR08E	GP024UR16E
	BASE MODULE		EXTENSION MODULE	
Product Standard	ICE 61131-2:2017			
Supply Characteristics				
Supply Voltage	24 V AC/DC			
Supply Voltage Range	20.4 to 26.4 V AC / 20.4 to 28.8 V DC			
Power Consumption	6VA, @26.4VAC 3W, @28.8VDC	6VA, @26.4VAC 3W, @28.8VDC	4VA,@26.4VAC 2W, @28.8VDC	11VA,@26.4VAC 6W, @28.8VDC
Inrush Current Added	5.4A @24VAC 3.8A @24VDC	5.4A @24VAC 3.8A @24VDC	5.A @24VAC 3.8A @24VDC	5.4A @24VAC 3.8A @24VDC
Permissable Frequency	50 Hz to 60 Hz (AC) (+/-3 Hz)			
Reverse polarity protection	Yes	Yes	Yes	Yes
Accuracy of the real-time clock And Battery Backup	Typ. ± 2 s/day at 25°C (10Years at 25° C)		NA	
Digital Input				
Number of Inputs	8		4	8
Number of Inputs				
Type of High Speed Inputs	NA			
Analog Inputs	NA			
Analog I/P Signal Range	NA			
Type Of Inputs	Resistive/Sinking			
Digital I/P Voltage range	0-26.4 V AC/ 0- 28.8 V DC			
Impedance	I1...I8 : Min 13.4kΩ		I1...I4 : Min 13.4kΩ	I1...I8 : Min 13.4kΩ
Max. Input current	≈ 5.0354 mA @26.4VAC (I1....I8 AC) ≈ 3.7808 mA @28.8VDC (I1....I8 DC)		≈ 5.0354 mA @26.4VAC (I1....I4 AC) ≈ 3.7808 mA @28.8VDC (I1....I4 DC)	≈ 5.0354 mA @26.4VAC (I1....I4 AC) ≈ 3.7808 mA @28.8VDC (I1....I8 DC)
Used as Digital				
Number of Normal inputs	8 (I1, I2, I3, I4,I5, I6, I7, I8) AC/DC		4 (I1...I4) AC/DC	4(I1....I4) AC & 8 (I1...I8) DC
Level (Logic 0)	< 5 V AC/VDC			
Release Current (logic 0)	0.5846 mA - 5V AC / 0.2890 mA - 5 V DC			
Level (logic 1)	> 12 V AC/DC			
Make Current (logic 1)	2.0405 mA - 12 V AC / 1.3097 mA V 12 DC			
Response Time	1-2 Cycle time (normal input)			
Max. I/P frequency	Max. 5 Hz			
Conformance With ICE 61131-2	Type 1		Type 1	
Isolation Betwen Power Supply & Inputs	None		None	
Isolation Between Inputs	None		None	
Protection Against Polarity Inversion	Yes		Yes	
Status Indicator	On Display (LCD) Only On LCD base		On Display (LCD) Only On LCD base	

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Technical Datasheet

GP024URL, GP024URB, GP024UR08E, GP024UR16E

Digital Relay Output				
No. of Outputs	4		4	8
Output Hardware	Relay (Normally open)			
Max. Output Load	8 A (Res.) @ 230 VAC / 8A @ 30 VDC		5A (Res.) @ 230 VAC / 5A @ 30 VDC	
Minimum load	12 V, 5 mA		12 V, 5 mA	
Max. Operation	Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet: 1. 8A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.		Mechanical: 1x 10^7 Electrical (resistive load at 85°C as per data sheet: 1. 5A, 250 VAC, 50 K Cycles. 2. 10A, 30 VDC, 10 K Cycles.	
Operating time	8 ms for bases		8 ms for extensions	
Release time	5 ms for bases		5 ms for extensions	
Built-In Protection Against Short Circuit	Against Short Circuit: None Against Over Voltages: None		Against Short Circuit: None Against Over Voltages: None	
Status Indicator	On Display (LCD)		On Display (LCD)	
Cable Length	≤ 30 meter		≤ 30 meter	
Weight (approx.)	227 g	195 g	120 g	211 g

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Technical Datasheet

GP024DTLL, GP024DTLB, GP024DTL08E, GP024DTL16E

Cat ID	GP024DTLL	GP024DTLB	GP024DTL08E	GP024DTL16E
	BASE MODULE		EXTENSION MODULE	
Product Standard	IEC 61131-2:2017			
Supply Characteristics				
Supply Voltage	24 V DC			
Supply Voltage Range	(20.4 - 28.8 V DC)			
Power Consumption	2W Max	2W Max	1W Max	1W Max
Inrush Current Added	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC
Reverse polarity protection	Yes	Yes	Yes	Yes
Accuracy of the real-time clock And Battery Backup	Typ. ± 2 s/day at 25°C (10Years at 25° C)		NA	
Digital Input				
Number of Inputs	8		4	8
Type Of Inputs	Resistive/Sinking			
Digital I/P Voltage range	0-28.8 V DC			
Impedance (I1...I4 / I5...I8)	I1...I4 : Min 40k / I5...I8: Min 13.4k		I1...I4 : Min 13.4k	I1...I8 : Min 13.4k
Max. Input current (I1...I4 / I5...I8)	≈ 0.6386 mA @28.8V (I1....I4) ≈ 3.7808 mA @28.8V (I5....I8)		≈ 3.7808 mA @28.8V I1....I4	≈ 3.7808 mA @28.8V I1....I8
Conformance with IEC 61131-2	Type 1		Type 1	
Isolation between power supply and inputs	None		None	
Isolation Between Inputs	None		None	
Protection against polarity inversion	Yes		Yes	
Used as Digital				
Number of Normal inputs	8 (I1, I2, I3, I4,I5, I6, I7, I8)		4 (I1...I4)	8 (I1...I8)
Level (Logic 0)	< 5 VDC			
Release Current (logic 0)	0.1109 mA (I1...I4) / 0.2890 mA (I5...I8)		0.2890 mA (I1...I4)	0.2890 mA (I1...I8)
Level (logic 1)	> 12 VDC			
Make Current (logic 1)	0.2661 mA (I1...I4) / 1.3097 mA (I5...I8)		1.3097 mA (I1...I4)	1.3097 mA (I1...I8)
Response Time	1-2 Cycle time (normal input)			
Max. I/P frequency	Normal Input : Max. 5 Hz			
Max Cable Length	Max 100 meter			
Status Indicator	On Display (LCD) / Only On LCD Base		On Display (LCD) / Only On LCD Base	
Used as high speed				
Number of high speed inputs	4 (I5, I6, I7, I8)		NA	NA
Max. I/P frequency	High speed input: Max. 5 kHz		NA	
High speed Input characteristic	With Duty Cycle 50± 5%, Logic 0<5V, Logic 1 >12V		NA	
Max Cable Length (Shielded)	Max 100 meter			

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Technical Datasheet

GP024DTLL, GP024DTLB, GP024DTL08E, GP024DTL16E

Used As Analog				
Analog Inputs	4 (I1, I2, I3, I4)		NA	
Analog I/P Voltage Range	0 VDC-10 VDC & 0 VDC-28.8V power supply		NA	
Max Value Without Destruction	28.8V DC Max		NA	NA
Value Of LSB	7mV		NA	NA
Resolution	12 bits 0-28.8V supply, 10 bits 0-10V		NA	NA
Maximum Error In 0-10V Mode	± 5% of full scale at 25° C(77°F) ± 6.5% of full scale at 55° C		NA NA	NA NA
Maximum Error In 0-V power supply Mode	± 5% of full scale at 25° C ±6.5% of full scale at 55° C		NA NA	NA NA
Potentiometer Control	10KΩ max		NA	NA
Max Cable Length (Shielded)	max 10 meter		NA	NA
Digital Static Output				
No Of Outputs	4		4	8
Output Hardware	Transister, Current Sinking			
Electrical Isolation	No			
Output Voltage	≤ Supply Voltage Min/Max rated voltage of power supply for outputs			
Output Current	Max 0.5A			
Short-ckt Proof	Yes			
Over Load Protection	Yes, Short-Circuit proof §6.4.6.4, Over-temperature shutoff (off 170°C / On 155°C) No Overload signal to uc, Signal is over-temperature shutoff			
Over Voltage Protection	Yes			
Status Indicator	On LCD Display for base module			
Isolation Between Power Supply And Output	No			
Isolation Between Outputs	No			
Short-ckt Current limitation	Yes, Internally protected (Max 3.5 A per output)			
Line Length (shielded)	Max. 30 meter			
Polarity Inversion Protection	Yes			
Voltage Drop	≤ 2 V for I = 0.5 A			
Min. load	50mA (Error in duty cycle : 15% at 2Khz Frequency)			
Weight (approx.)	203 g	172 g	95 g	165 g

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Technical Datasheet

GP024DTHL, GP024DTHB, GP024DTH08E, GP024DTH16E

Cat ID	GP024DTHL	GP024DTHB	GP024DTH08E	GP024DTH16E
	BASE MODULE		EXTENSION MODULE	
Product Standard	IEC 61131-2:2017			
Supply Characteristics				
Supply Voltage	24 V DC			
Supply Voltage Range	20.4 - 28.8 V DC			
Power Consumption	2W Max	2W Max	1W Max	1W Max
Inrush Current Added	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC	3.8A @24VDC
Reverse polarity protection	Yes	Yes	Yes	Yes
Accuracy of the real-time clock And Battery Backup	Typ. ± 2 s/day at 25°C (10Years at 25° C)		NA	
Digital Input				
Number of Inputs	8		4	8
Type Of Inputs	Resistive/Sinking			
Digital I/P Voltage range	0-28.8 V DC			
Impedance (I1...I4 / I5...I8)	I1...I4 : Min 40k / I5...I8: Min 13.4k		I1...I4 : Min 13.4k	I1...I8 : Min 13.4k
Max. Input current (I1...I4 / I5...I8)	≈ 0.6386 mA @28.8V (I1....I4) ≈ 3.7808 mA @288.V (I5....I8)		≈ 3.7808 mA @28.8V I1....I4	≈ 3.7808 mA @28.8V I1....I8
Used as Digital				
Number of Normal inputs	8 (I1, I2, I3, I4,I5, I6, I7, I8)		4 (I1...I4)	8 (I1...I8
Level (Logic 0)	< 5 VDC			
Release Current (logic 0)	0.1109 mA (I1...I4) / 0.2890 mA (I5...I8)		0.2890 mA (I1...I4)	0.2890 mA (I1...I8)
Level (logic 1)	> 12 VDC			
Make Current (logic 1)	0.2661 mA (I1...I4) / 1.3097 mA (I5...I8)		1.3097 mA (I1...I4)	1.3097 mA (I1...I8)
Response Time	1-2 Cycle time (normal input)			
Max. I/P frequency	Normal Input : Max. 5 Hz			
Max Cable Length	Max 100 meter			
Status Indicator	On Display (LCD), Only On LCD Base		On Display (LCD), Only On LCD Base	
Used as high speed				
Number of high speed inputs	4 (I5, I6, I7, I8)		NA	NA
Max. I/P frequency	High speed input: Max. 5 kHz		NA	
High speed Input characteristic	With Duty Cycle 50± 5%, Logic 0<5V, Logic 1 > 12V		NA	
Max Cable Length (Shielded)	Max 100 meter		NA	
Used As Analog				
Analog Inputs	4 (I1, I2, I3, I4)		NA	
Analog I/P Voltage Range	0 VDC-10 VDC & 0 VDC-28.8V power supply		NA	
Max Value Without Destruction	28.8V DC Max		NA	NA
Value Of LSB	7mV		NA	NA
Resolution	12 bits 0-28.8V supply, 10 bits 0-10V		NA	NA
Maximum Error In 0-10V Mode	± 5% of full scale at 25° C(77°F) ± 6.5% of full scale at 55° C		NA NA	NA NA
Maximum Error In 0-V power supply Mode	± 5% of full scale at 25° C 6.5% of full scale at 55° CNA		NA NA	NA
Potentiometer Control	10KΩ max		NA	NA
Max Cable Length (Shielded)	max 10 meter		NA	NA

Genie Pro

Technical Datasheet

GP024DTHL, GP024DTHB, GP024DTH08E, GP024DTH16E

Digital Static Output				
No Of Outputs	4		4	8
Output Hardware	Transister, Current Sourcing			
Electrical Isolation	No			
Output Voltage	≤ Supply Voltage Min/Max rated voltage of power supply for outputs			
Output Current	Nominal 0.50A / Max 0.625A			
Short-ckt Proof	Yes			
Over Load Protection	Yes, Short-Circuit proof §6.4.6.4, Over-temperature shutoff (off 170°C / On 155°C) No Overload signal to uc, Signal is over-temperature shutoff			
Over Voltage Protection	Yes			
Status Indicator	On LCD Display for base module			
Isolation Between Power Supply And Output	No			
Isolation Between Outputs	No			
Short-ckt Current limitation	Yes, Internally protected (Max 1.7 A per output)			
Line Length (shielded)	Max. 30 meter			
Polarity Inversion Protection	Yes			
Voltage Drop	≤ 2 V for I = 0.5 A			
Min. load	10mA (Error in duty cycle : 10% at 2Khz Frequency)			
Weight (approx.)	203 g	172 g	95 g	165 g

Genie Pro

Technical Datasheet

Base: GP230URL, GP124DRL , GP024URL, GP024DTLL, GP024DTHL, GP230URB, GP124DRB, GP024URB, GP024DTLB, GP024DTHB

Extension: GP230UR08E, GP124DR08E, GP024UR08E, GP024DTL08E, GP024DTH08E, GP230UR16E, GP124DR16E, GP024UR16E, GP024DTL16E, GP024DTH16E

Cat ID		GP230URL GP124DRL GP024URL GP024DTLL GP024DTHL	GP230URB GP124DRB GP024URB GP024DTLB GP024DTHB	GP230UR08E GP124DR08E GP024UR08E GP024DTL08E GP024DTH08E	GP230UR16E GP124DR16E GP024UR 16E GP024DTL16E GP024DTH16E
		Base Module		Extension Module	
Mechanical Specification					
Enclosure Protection		IP 40 Front Panel, IP20 for terminal			
Enclosure type		4 M		2 M	4 M
Dimension (WxHxD)		72x90x60.74	72x90x58.3	36x90x58.3	72x90x58.3
Mounting Type		Base / Din-Rail Mounting			
Connection					
Terminal Type		Euro type terminal			
Wire Size		1 x 24 to 12 (AWG), Solid wire Range: 1*2.5 mm^2 or 2*1.5 mm^2, Flexible wire Range: 1*2.5 mm^2 or 2*1.5 mm^2			
Screw tightening Torque		For Earth terminal: 0.4 N. m. (3.54 lb. in) and For Normal terminal: 0.5 Nm (4.4 lb. In)			
Communication					
Ethernet Port*		Yes (Inbuilt)		NA	
Protocol Supported		MODBUS TCP Server and Client and webserver connectivity			
Internal Port		Yes RS485/SD Card Interface (Detachable Interface)			
Max. Number of Extensions		12 (up to 60 I/O's)			
Functional Working					
Programming language		Ladder and FBD			
Scan Time		Depends upon the user program			
Maximum no. of I/O's		24DI + 20DO + 8AI + 8AO			
LCD Details					
LCD Color Green		Green, White, Orange	NA		
Font Area		Cust. fonts 160*96	NA		
Type of display		Graphics display	NA		
LED Indication					
Ethernet port connection		Yes		NA	
Run/Stop Indication		NA	Yes	Yes	
Keys Details					
Cursor keys		4: C (Lt, Rt, Up, Dn)	NA	NA	
Function Keys		ESC, OK	NA	NA	
Environmental Specification					
Operating Temperature		-20°C to +55°C			
Storage Temperature		-30°C to +70°C			
Relative Humidity		10-95%, non-condensing			
Environmental Air		No excessive dust or corrosive gas allowed			
Maximum Operating Altitude	Operation	2000 m			
	Transport	0 - 3000 m			
Over-voltage category		2 in accordance with IEC/EN 60664-1			
Clearance and creepage		IEC 60664, IEC 61131-2			
Pollution Degree		2			

* This port is used for Software communication, Ladder Download / Upload, Online Monitoring and firmware Upgrade.

Genie Pro

Technical Datasheet

Base: GP230URL, GP124DRL , GP024URL, GP024DTLL, GP024DTHL, GP230URB, GP124DRB, GP024URB, GP024DTLB, GP024DTHB

Extension: GP230UR08E, GP124DR08E, GP024UR08E, GP024DTL08E, GP024DTH08E, GP230UR16E, GP124DR16E, GP024UR16E, GP024DTL16E, GP024DTH16E

Cat ID	Applicable to all Cat ID
Conformity to Standards	
Certifications	CE, REACH, UKCA and UL Listed
Conformity with the EMC directive	IEC/EN 61000-6-1 (Residential, commercial, and light-industrial environments) IEC/EN 61000-6-2 (Industrial) IEC/EN 61000-6-3 (Residential, commercial, and light-industrial environments) IEC/EN 61000-6-4 (Industrial)
EMC Tests	
ESD	IEC 61000-4-2 Level III (AD: +/-8KV and CD: +/-4KV), Criteria B
Radiated Susceptibility	IEC 61000-4-3, 80 to 1000MHz 10V/m; 1.4 to 2GHz 3V/m; 2 to 2.7GHz 3V/m, 2.7 GHz to 6 GHz 3V/m, Criteria A
Electrical Fast Transients	IEC 61000-4-4 (Criteria -B), Data communication: 1KV, Analog or DC I/O (unshielded): 1KV All shielded lines (to earth): 1KV, DC Power Supply: 2KV
Surge	IEC 61000-4-5 (Criteria -B), DC Power Supply: 0.5 kV CM, 0.5 kV DM
Conducted Susceptibility	IEC 61000-4-6, Frequency Range: 150 KHz to 80 MHz, Performance criterion: A
Power Frequency Magnetic Field	IEC 61000-4-8, Test Level: 30A/m. Performance Criteria: A
Voltage Dips	As per IEC61131 -2
Conducted & Radiated Emission	CISPR11 Class B
Harmonic immunity	NA
Supply variations	As per IEC61131 -2, Gradual shut-down/start-up test Performance Criterion: A
Over load test	As per IEC61131 -2
Safety Tests	
HV withstand	2KV
Impulse Voltage btw. I/P and O/P	As per IEC61131 -2
Single Fault	IEC 61311-2 and IEC 61010-1
Insulation Resistance	> 100M Ohm for 1 minute
Leakage Current	IEC 61131-2, < 2.5 mA, for current-sourcing digital DC outputs
Clearance and creepage	As per IEC 61131-2 standard
Mechanical test	
Vibration amplitude/ acceleration 5 Hz ≤ f < 8.4 Hz 8.4 Hz ≤ f ≤ 150 Hz	3.5 mm peak displacement, constant amplitude 1.0 g peak acceleration, constant amplitude
Immunity to Vibration	IEC/EN 60068-2-6, test Fc
Immunity to Shock	IEC/EN 60068-2-27 ,15 g peak, 11 ms duration
Type of shock	Half-sine
Shock severity	15 g peak, 11 ms duration
Application	Three shocks in each direction per axis, on 3 mutually perpendicular axes (total of 18 shocks)

Genie Pro

Technical Datasheet

GP124DM20E, GP024DQ02E

Cat ID	GP124DM20E	GP024DQ02E
	ANALOG INPUT EXTENSION MODULE	ANALOG OUTPUT EXTENSION MODULE
Product Standard	IEC 61131-2:2017	
Supply Characteristics		
Supply Voltage	12-24 V DC	24 V DC
Supply Voltage Range	(10.8 V DC to 28.8 V DC)	(20.4 V DC to 28.8 V DC)
Power Consumption	1.2W Max	1W Max
Inrush Current	0.4 A @12VDC, 0.7 A @24VDC	2.2 A @24VDC
Electrical isolation	Yes (Base and Analog Expansions) and No (supply and CPU)	
Reverse polarity protection	Yes	
Analog Input		
Number of Analog Inputs	2 - Unipolar	NA
Electrical isolation	No (supply/input or input/input)	NA
Input Range	0 VDC to 10 VDC (input impedance >=120 kΩ) or 0/4 mA to 20 mA (input impedance <250 Ω)	NA
Resolution	12 Bit, 0-10V (0 to 4095) 0-20mA (0 to 2000), 4-20mA (400 to 2000)	NA
Line Length	Max 10 meters	
Analog Output		
No. of Analog Output	NA	2
Voltage range	NA	0 VDC to 10 VDC
Voltage load	NA	≥5 kΩ
Current output	NA	0/4 mA to 20 mA
Current load	NA	≤250 Ω
Resolution	NA	10 bit, 0-10V (0 to 1000), 0-20mA (0 to 2000)4-20mA (400 to 2000)
Electrical Isolation	NA	NO (supply/input or input/input)
Line Length	NA	Max 10 meter
Error limit	NA	± 2.5% FS (250mV / 0.5mA)
Short circuit	NA	Voltage: Yes
Overload protection	NA	Voltage: Yes

Genie Pro

Technical Datasheet

GP124DM20E, GP024DQ02E

Cat ID		GP124DM20E	GP024DQ02E
		ANALOG INPUT EXTENSION MODULE	ANALOG OUTPUT EXTENSION MODULE
LED Indication			
Run/Stop Indication		Yes	
Environmental Specification			
Operating Temperature		-20°C to +55°C	
Storage Temperature		-30°C to +70°C	
Relative Humidity		10-95%, non-condensing	
Environmental Air		No excessive dust or corrosive gas allowed	
Maximum Operating Altitude	Operation	2000 m	
	Transport	0 - 3000 m	
Over-voltage category		2 in accordance with IEC/EN 60664-1	
Clearance and creepage		IEC 60664, IEC 61131-2	
Pollution degree		2	

Genie Pro

Technical Datasheet

GP124DH20E

Cat ID	GP124DH20E
	RTD INPUT EXPANSION MODULE
Supply Characteristics	
Supply Voltage	12-24 V DC
Supply Variation	(10.8 V DC to 28.8 V DC)
Power Consumption	1.2W Max
Inrush current	0.4 A @12VDC, 0.7 A @24VDC
Electrical isolation	Yes (Base and Analog Expansions) and No (supply and CPU)
Reverse polarity protection	Yes
RTD Input	
Number of Analog Inputs	2 - Unipolar
Electrical isolation	No (supply/input or input/input)
Type	PT100 or PT1000 with the default temperature coefficient of α = 0.003850 for both Types, and compatible sensors
Connection of sensors 2-wire and 3-wire	Yes
Measurement range	-50 °C to +200 °C, -58 °F to +392 °F
Resolution	12 bit, -50°C to +200°C (-500 to 2000)
Error limits (3-wire technique) at ambient temperature of +25 °C	+/- 2.0 °C
Measurement range	+201 °C to +700 °C, -393.8 °F to +1292 °F
Resolution	12 bit, +201 °C to +700 °C (2001 to 7000)
Error limits (3-wire technique) at ambient temperature of +25 °C	+/- 3.5 °C
Mechanical Specifications	
Enclosure Protection	IP 40 for Front Panel, IP20 for terminal
Enclosure type	2M
Dimension (WxHxD)	36x90x58.3
Mounting Type	Base /Din-Rail Mounting
Weight (approx.)	96 g

Genie Pro

Technical Datasheet

GP124DH20E

Cat ID		GP124DH20E
		RTD INPUT EXPANSION MODULE
LED Indication		
Run/Stop Indication		Yes
Environmental Specification		
Operating Temperature		-20°C to +55°C
Storage Temperature		-30°C to +70°C
Relative Humidity		10-95%, non-condensing
Environmental Air		No excessive dust or corrosive gas allowed
Maximum Operating Altitude	Operation	2000 m
	Transport	0 - 3000 m
Over-voltage category		2 in accordance with IEC/EN 60664-1
Clearance and creepage		IEC 60664, IEC 61131-2
Pollution degree		2

Genie Pro

Technical Datasheet

GP124DM20E, GP024DQ02E, GP124DH20E

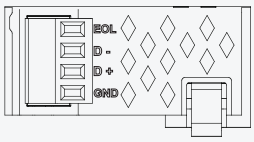
Cat ID		GP124DM20E	GP024DQ02E	GP124DH20E
		ANALOG INPUT EXTENSION MODULE	ANALOG OUTPUT EXTENSION MODULE	RTD INPUT EXPANSION MODULE
Conformity to Standards				
Certifications		CE, REACH, UKCA and UL Listed		
Conformity with the EMC directive		IEC/EN 61000-6-1 (Residential, commercial, and light-industrial environments) IEC/EN 61000-6-2 (Industrial) IEC/EN 61000-6-3 (Residential, commercial, and light-industrial environments) IEC/EN 61000-6-4 (Industrial)		
Connection				
Terminal Type		Euro type terminal		
Wire Size		1 x 24 to 12 (AWG), Solid wire Range: 1*2.5 mm^2 or 2*1.5 mm^2, Flexible wire Range: 1*2.5 mm^2 or 2*1.5 mm^2		
Screw tightening Torque		For Earth terminal: 0.4 N. m. (3.54 lb. in) and For Normal terminal: 0.5 Nm (4.4 lb. In)		
EMC Tests				
ESD		IEC 61000-4-2 Level III (AD: +/-8KV and CD: +/-4KV), Criteria B		
Radiated Susceptibility		IEC 61000-4-3, 80 to 1000MHz 10V/m; 1.4 to 2GHz 3V/m; 2 to 2.7GHz 3V/m, 2.7 GHz to 6 GHz 3V/m, Criteria A		
Electrical Fast Transients		IEC 61000-4-4 (Criteria -B), Data communication: 1KV, Analog or DC I/O (unshielded): 1KV All shielded lines (to earth): 1KV, DC Power Supply: 2KV		
Surge		IEC 61000-4-5 (Criteria -B), DC Power Supply: 0.5 kV CM, 0.5 kV DM		
Conducted Susceptibility		IEC 61000-4-6, Frequency Range: 150 KHz to 80 MHz, Performance criterion: A		
Power Frequency Magnetic Field		IEC 61000-4-8, Test Level: 30A/m. Performance Criteria: A		
Voltage Dips		As per IEC61131 -2		
Conducted & Radiated Emission		CISPR11 Class B		
Harmonic immunity		NA		
Supply variations		As per IEC61131 -2, Gradual shut-down/start-up test Performance Criterion: A		
Over load test		As per IEC61131 -2		
Safety Tests				
HV withstand		2KV		
Impulse Voltage btw. I/P and O/P		As per IEC61131 -2		
Single Fault		IEC 61311-2 and IEC 61010-1		
Insulation Resistance		> 100M Ohm for 1 minute		
Leakage Current		IEC 61131-2, < 2.5 mA, for current-sourcing digital DC outputs		
Clearance and creepage		As per IEC 61131-2 standard		
Mechanical test				
Vibration amplitude/ acceleration	5 Hz ≤ f < 8.4 Hz	3,5 mm peak displacement, constant amplitude		
	8.4 Hz ≤ f ≤ 150 Hz	1,0 g peak acceleration, constant amplitude		
Immunity to Vibration		IEC/EN 60068-2-6, test Fc		
Immunity to Shock		IEC/EN 60068-2-27 ,15 g peak, 11 ms duration		
Type of shock		Half-sine		
Shock severity		15 g peak, 11 ms duration		
Application		Three shocks in each direction per axis, on 3 mutually perpendicular axes (total of 18 shocks)		

Genie Pro

Technical Datasheet

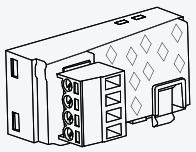
GPADCP, GPA0CN, GPA0MC

Cat ID	GPADCP	GPA0CN	GPA0MC
	RS485 Biased Module	RS485 Unbiased Module	Micro SD Card Module
Communication			
Protocol Supported	Slave Modbus		NA
Transmission Mode	RTU 8 bits		NA
Parity	None, Even, odd		NA
Stop Bit	1 Or 2		NA
Transmission Rate	9600, 19200, 38400, 57600 bauds		NA
Type	2 Wires		NA
Line Termination (120Ω)	Internal	Internal	NA
Biased Resistor (4.7kΩ)	Internal	External	NA
Capicity	NA		Maximum up to 32GB Read/Write
Environmental Specification			
Operating Temp	-20°C to +55°C		
Storage Temp	-30°C to +70°C		
Relative Humidity	10-95%, non condensing		
Pollution degree	2		
Maximum Operating Altitude (Operating)	2000m		
Maximum Operating Altitude (Operating)	0-3000m		
Mechanical Specifications			
Enclosure Protection Rating	IP30		
Dimension (WxHxD)	26.3 x 43.82 x 14.25mm		26.3 x 54.25 x 19.49mm
Weight	TBD	TBD	TBD
Connection			
Terminal Type	Euro type terminal		NA
Wire Size	1 x 24 to 12		NA
Screw tightening torque	0.4 N. m. (3.54 lb. in)		NA



GPADCP

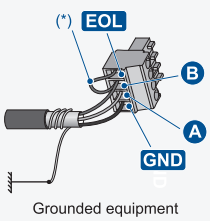
An RS485 module with internal biasing resistors (4.7 K Ω) that maintains a defined idle bus state when no device is transmitting.



GPA0CN

An RS485 module without internal biasing resistors.

Such modules require external bias resistors (4.7 K Ω) or at least one polarized device in the network to maintain a defined bus state.



Connection of EOL (End-of-Line) Terminal:

In the internal circuit, the 120 Ω termination resistor is connected as follows:

1. One end of the resistor is connected to A / D+ line
2. The other end is connected to the EOL terminal

Since RS485 termination resistors must be connected between A and B lines, the termination can be enabled by: Shorting the EOL terminal with B / D- terminal.

This connects the 120 Ω resistor across A and B lines, enabling bus termination.

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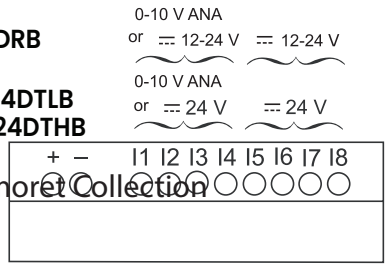
Conncection Diagram - Base Module

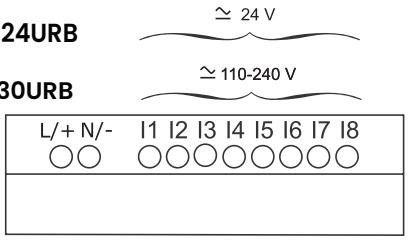
GP124DRL/GP124DRB

GP024DTLL/GP024DTLB
GP024DTHL/GP024DTHB

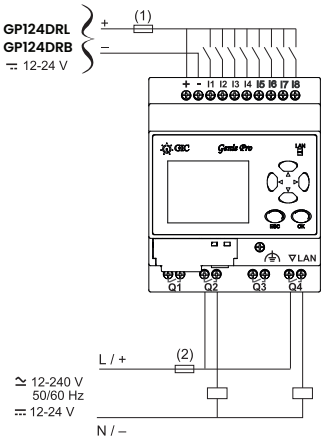


GP024URL/GP024URB

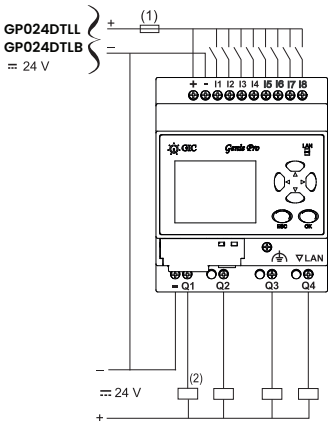
GP230URL/GP230URB



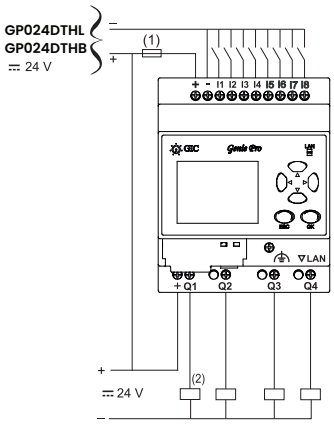
GP124DRL/GP124DRB



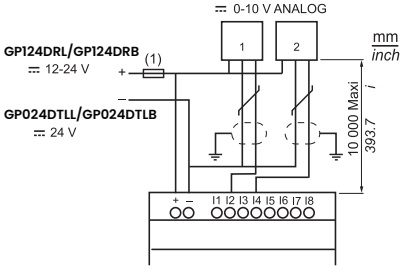
GP024DTLL/GP024DTLB



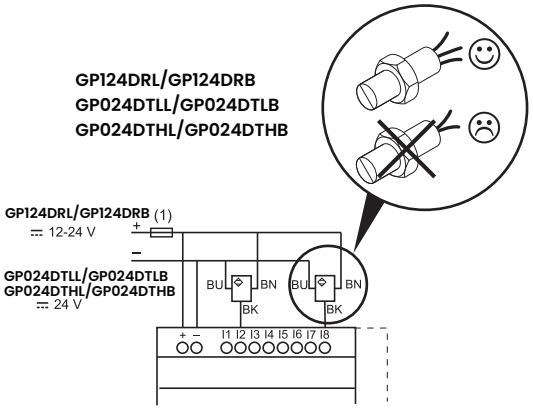
GP024DTHL/GP024DTHB



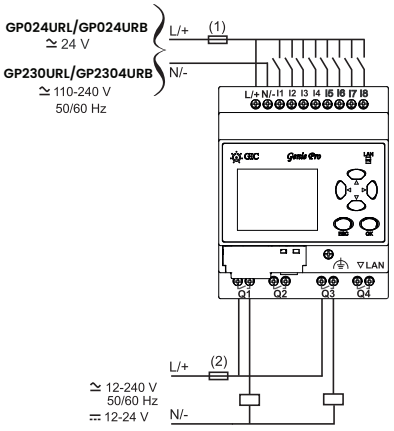
GP124DRL/GP124DRB
GP024DTLL/GP024DTLB



GP124DRL/GP124DRB
GP024DTLL/GP024DTLB
GP024DTHL/GP024DTHB



GP024URL/GP024URB
GP230URL/GP2304URB



(1) 1 A quick blowing fuse, circuit-breaker or current protector

(2) Fuse, circuit breaker or current protector as per relay rating.

For 8A relay use 8A circuit breaker or current protector.

For 5A relay use 5A circuit breaker or current protector.

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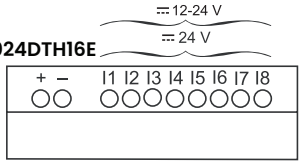
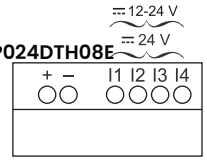
Connection Diagram - Digital Expansion Module

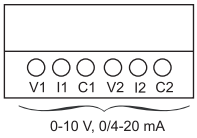
GP024DTL16E, GP024DTH16E



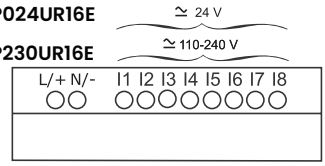
GP024DTL08E, GP024DTH08E



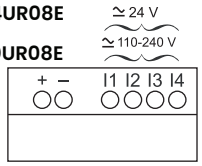
GP124DM20E
GP024DQ02E



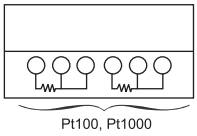
GP024UR16E
GP230UR16E



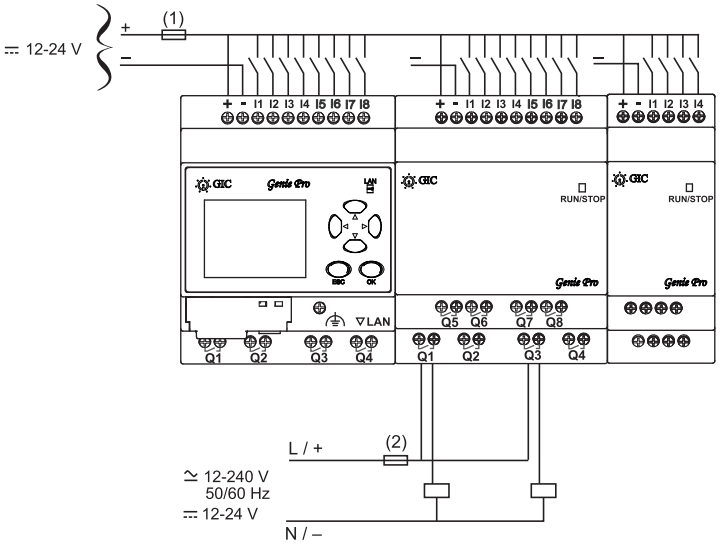
GP024UR08E
GP230UR08E



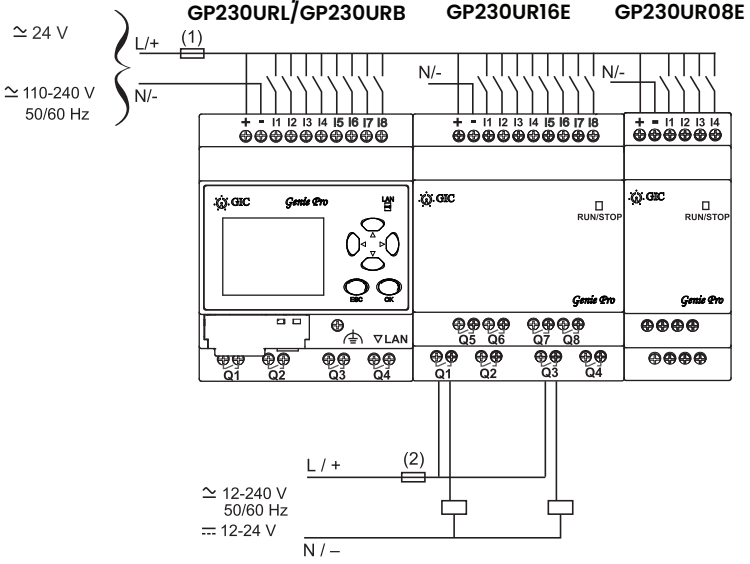
GP124DH20E



GP124DRL/GP124DRB **GP124DR16E** **GP124DR08E**



GP024URL/GP024URB
GP230URL/GP230URB
GP024UR16E
GP230UR16E
GP024UR08E
GP230UR08E



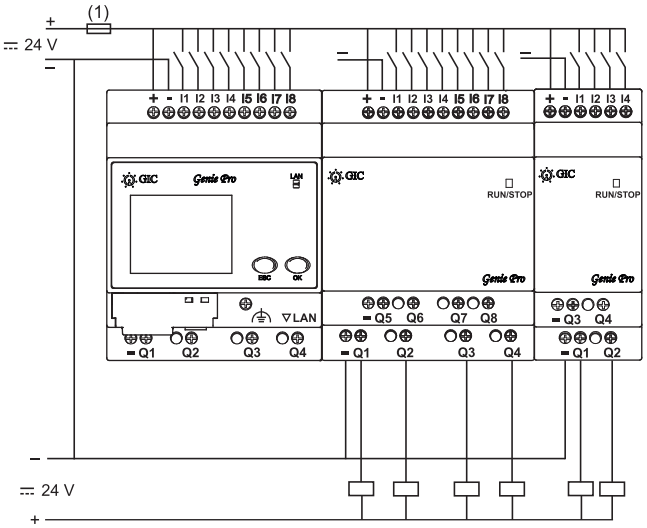
(1) 1 A quick blowing fuse, circuit-breaker or current protector.

(2) Fuse, circuit breaker or current protector as per relay rating.
For 8A relay use 8A circuit breaker or current protector.
For 5A relay use 5A circuit breaker or current protector

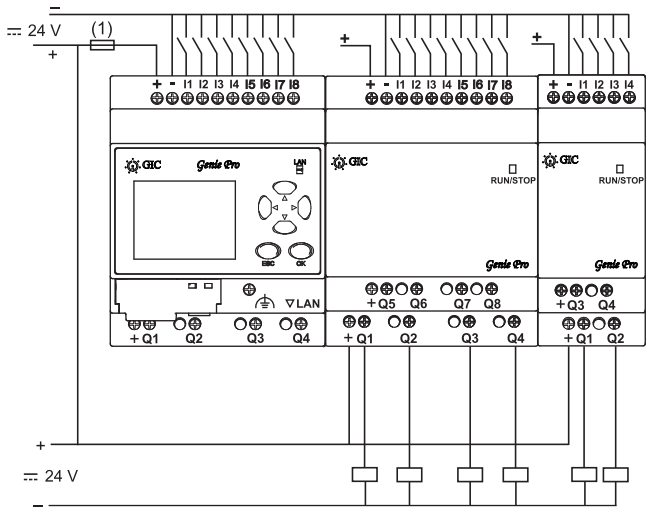
Genie Pro

Connection Diagram - Digital Expansion Module

GP024DTLL/GP024DTLB GP024DTL16E GP024DTL08E

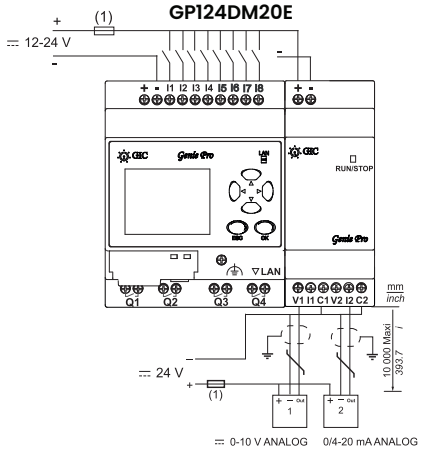


GP024DTHL/GP024DTHB GP024DTH16E GP024DTH08E

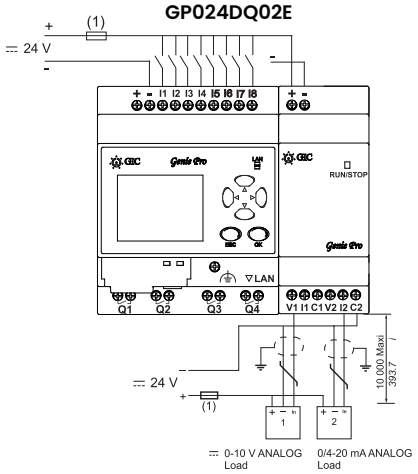


Connection Diagram - Analog Expansion Module

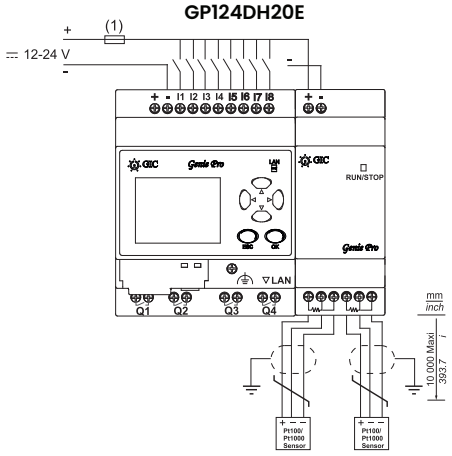
GP124DM20E



GP024DQ02E



GP124DH20E

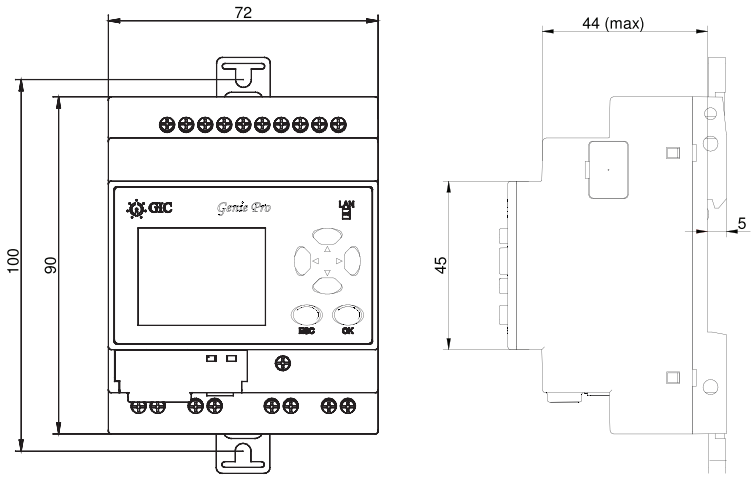


(1) 1 A quick blowing fuse, circuit-breaker or circuit protector.

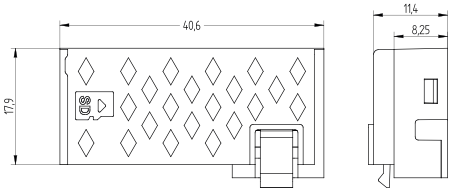
Genie Pro

Product Dimensions

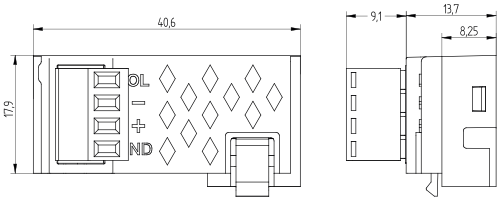
4M Base Module



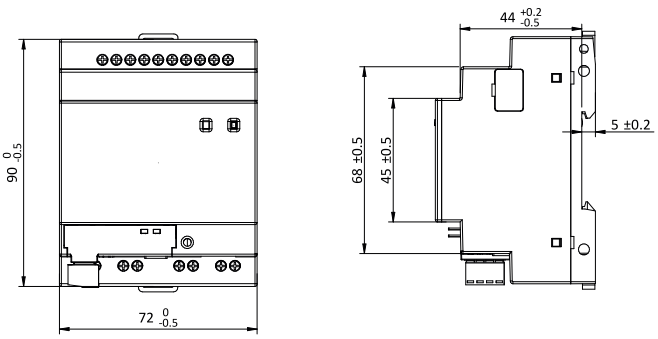
SD Card



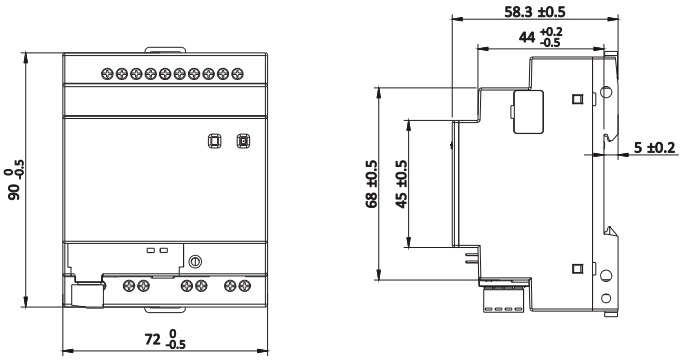
RS 485



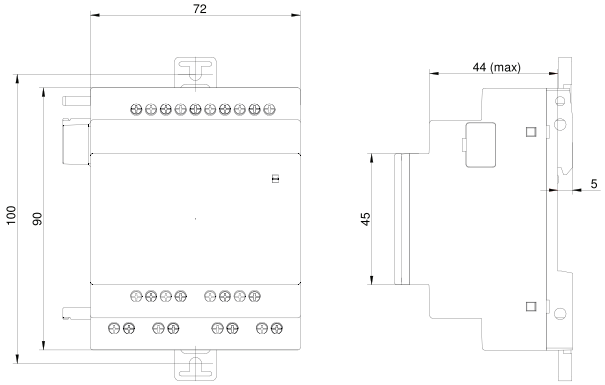
4M Base AC Unit Module



4M Base DC Unit Module



4M Base Extension AC



4M Base Extension DC