Mini PLC PL - 100 with 2 COM ports

- Supports up to 112 IOs
- Relay Base & Transistor Low Side Base modules
- Stacking using FRC cable up to maximum 6 Expansion Modules
- Isolated Digital Inputs with sourcing & sinking capability
- Isolated Digital Transistorized Outputs (Low Side and High side driver)
- 128 Weekly, Monthly & Yearly Time Switches each
- GSM support through expansion
- Physical switch for RUN & STOP program
- Analog Voltage/Current Inputs and Outputs of 0-10 V / 4-20 mA
- PC Software for programming, online & offline simulation, online monitoring
- Standard RS232/RS485 port with RJ11 & RS485 port with screwing connector.
- Modbus RTU support (master & slave both).
- Multiple Timers, Counters including retentive counters, Hour meters & many more function blocks .

Ordering Information

Cat. No.	Description
Base Models:	
PC10BD16005D1	DC Base with 8 Digital I/Ps, 8 Relay Outputs With 2 COM Ports.
PC10BD14006D1	DC Base with 8 Digital I/Ps (4 Normal I/Ps + 4 High Speed I/Ps) 6 Transistor Low Side Outputs (4 Normal O/Ps + 2 High Speed O/Ps) With 2 COM Ports.
Extension Models:	
PC10ED08001N	Extension with 8 Digital Inputs
PC10ED08002N	Extension with 8 Relay Outputs
PC10ED16003N	Extension with 8 Digital Inputs and 8 Relay Outputs
PC10ED08004N	Extension with 8 Transistor Low Side Outputs
PC10ED08005N	Extension with 8 Transistor High Side Outputs
PC10EA04001N	Extension with 4 Analog Inputs (Max. 24, 0-10V / 4-20mA)
PC10EA02002N	Extension with 2 Analog Outputs (Max. 12, 0-10V / 4-20mA)
Application Software:	
PC10SN001N	PL-Soft Pro
Accessories:	
28E33B0	Accessory, USB 2.0 Cable, Type A Male to Mini USB type 'B' PLUG
PC10AC2	RS232 Communication Cable, PL-100 to HMI / SCADA
PC10AC3	RS485 Communication Cable, PL-100 to HMI / SCADA (DB9 Female to RJ-11)
PC10AC4	RS485 Communication Cable, PL-100 to HMI / SCADA (DB9 Male to RJ-11)

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Cat. No.	PC10BD16005D1	PC10BD14006D1
Parameters		
Supply Voltage (⏚)	24 VDC	24 VDC
Supply Tolerance	- 15% to +20%	- 15% to +20%
Internal Current Consumption	65mA @ 24 VDC	60mA @ 24 VDC
Inrush Current	2.5A @ 24VDC	2.5A @ 24VDC
Battery Backup (In Event of Power failure)	5 years	5 years
Separate Power Supply For Output	Not required	(External fuse of 10A is recommended)
Digital Inputs		
No. of Inputs	8	4+4 High Speed (I2,I3,I6,I7)
Grouping	(4+1 Common)*2	(4+1 Common)*2
Type of Inputs	Sinking / Sourcing	Sinking / Sourcing
Input Voltage Range	0 - 28.8 VDC	0 - 28.8 VDC
Level (Logic 0)	Max. 5VDC	Max. 5VDC
Level (Logic 1)	Min. 11VDC	Min. 11VDC
Max. Input Current	1.2 mA per input	1.2 mA per input
Hardware Delay	Max 10 mSec	Max 10 mSec
Digital Filter Time (Sampling Time)	28 mSec	28 mSec
Min. Pulse Width	(Hardware Delay + Digital Filter Time) OR (System Loop Time) whichever is higher.	(Hardware Delay + Digital Filter Time) OR (System Loop Time) whichever is higher.
Max. I/P frequency	10 Hz (for worst case condition)	10 Hz (for worst case condition)
High Speed Level (Logic 0)	-	Max 3 VDC
High Speed Level (Logic 1)	-	Min 11 VDC
Max Input Current	-	1.2 mA per Input
Max High Speed Input Current	-	8 mA per Input
Min. Pulse width for High Speed Inputs (for 'low to high' or 'high to low' transition)	-	50 µSec (Min.)
Max. I/P frequency for high speed inputs.	-	Single Phase Mode - 10 kHz. Quadrature Mode 1X - 10 kHz, 2X - 5 kHz, 4X - 2.5 kHz
Digital Outputs		
No. of Outputs	8	2+4 High Speed
Grouping	(4+1 Common)*2	NA
Output Hardware	Relay (NO)	MOSFET Low Side Driver
Rated Load	5 A (Res.) @ 230 VAC / 30 VDC	24 VDC, 500 mA
Max load per common	10 A	
Max operations	$1x10^5$	
Protection	External Fuse	Internally Protected (Max 3 A Per output)
Min. load for High Speed Output	-	10% of Rated Load (24 VDC, 500 mA)
HSO frequency	-	High Speed outputs SPO-25kHz, PWM-5kHz PTO-5kHz PTO-25kHz
Isolation		
Between Output & Supply	2kV	
Between Input & Supply	2kV	
Communication		
PC Port (USB) (Mini)	Mini USB Port for PC Communication	
Isolation for USB Port	2kV between communication lines and internal circuit	
COM1 (RS-232 / RS-485)	RJ11 Port for HMI (or any MODBUS Device)	
COM2 (RS-485)	Screwing connector for GSM alarm Modem (or any MODBUS Device)	
Communication parameters	S/W selectable	
Communication Protocol	MODBUS Slave / MODBUS Master	
Functional		
Programming language	Ladder	
Scan Time	50 mSec max.	
User Program memory	256 kB	
User Data memory	8 kB	
Maximum no. of I/O s	112	
Maximum no. of Extension modules	6	

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Cat. No.	PC10BD16005D1	PC10BD14006D1
Indication		
Input	Yes (Green LED)	
Output	Yes (Red LED)	
RUN	Yes (Green LED)	
STOP	Yes (Red LED)	
ERROR	Yes (Red LED Blinking)	
Operating Temperature	0ºC to 55ºC	
Storage Temperature	-40ºC to 70ºC	
Relative Humidity	10-95% RH (non-condensing)	
Environmental Air	No excessive dust or corrosive gas allowed	
Dimension (W x H x D) (in mm)	72 x 90 x 58	
Weight (unpacked) Approx.	220g	
Mounting	DIN Rail (35 mm)	
Enclosure Material	UL 94 V0	
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure	
Certification	CE RoHS Compliant	

LED Indication:

Indication For	RUN/Stop LED Indication on Base	RUN/Stop LED Indication on Extension
RUN Mode	Green Continuous ON	Green Continuous ON
STOP Mode	Red Continuous ON	Red Continuous ON
Device Online Mode	Alternate blinking of Red& Green LED	Green Continuous ON
Base Short Circuit Error	Red LED blinking	Red Continuous ON
Extension Short Circuit Error	Red LED Continuous ON	Red blinking
Base or Extension does not have valid firmware update in progress	Green LED blinking	All Continuous OFF
GSM functionality ERROR but PL 100 ladder (except GSM block) is executed correctly.	Green LED blinking at the rate of 1 sec and when green LED is OFF, Red LED blinks at the rate of 100 ms	NA

EMI / EMC

ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surge	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Power Frequency Magnetic Field Test	IEC 61000-4-11
Conducted Emission	CISPR 11
Radiated Emission	CISPR

Safety Compliance

Test Voltage between I/P and O/P	UL 508 2 kV
Impulse Voltage between I/P and O/P	IEC 60947-5-1 Level IV
Single Fault	IEC 61010-1
Insulation Resistance	UL 508 > 50 K Ohm
Leakage Current	UL 508 < 3 mA

Environmental Compliance

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6

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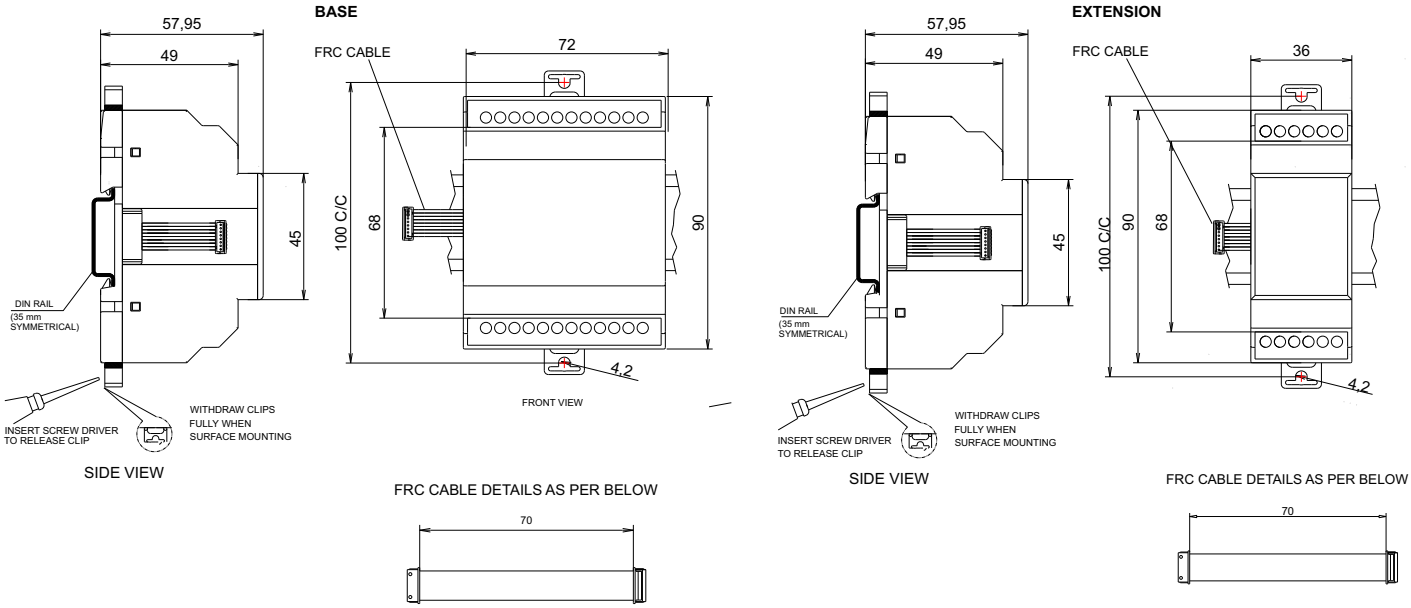
MOUNTING DIMENSIONS (mm)



TERMINAL TORQUE & CAPACITY

Ø 3.5	0.54 N.m (6 Lb.in)
	1 x 2.5 mm^2 Solid Wire/Stranded
AWG	1 x 24 to 12