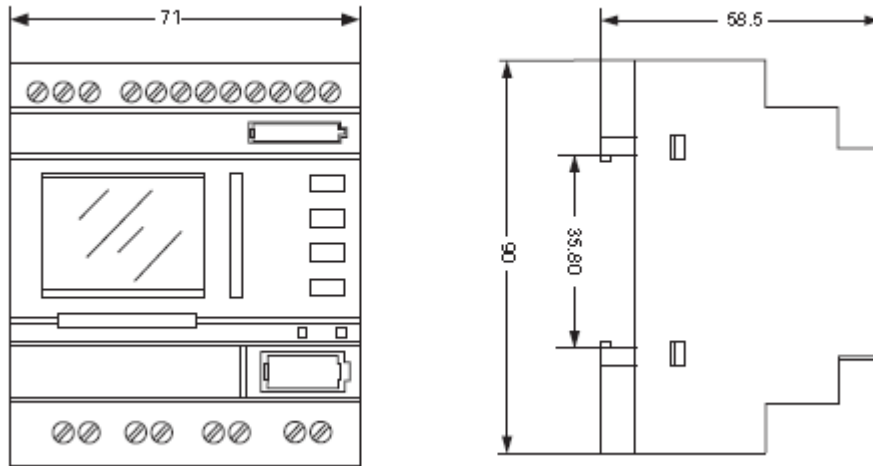


APB and SR Product Family

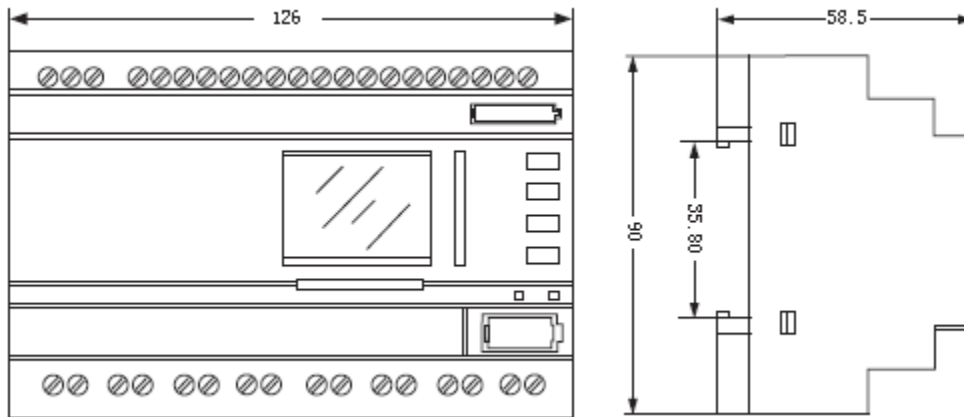
General Specifications

The SR and APB product families share common housings and operating parameters.

Compact Units Dimensions

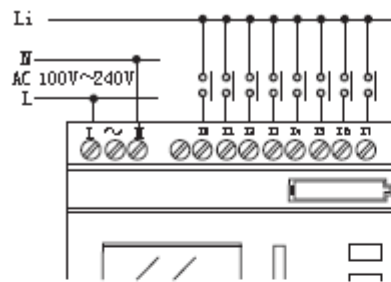


Standard and Expansion Units Dimensions

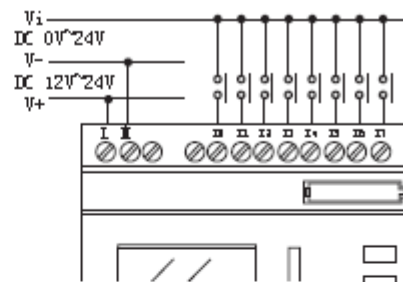


Wiring Instructions

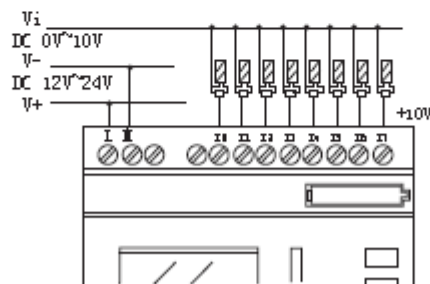
Power Supply and Inputs



AC Type

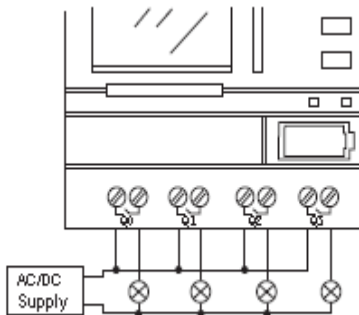


DC Type

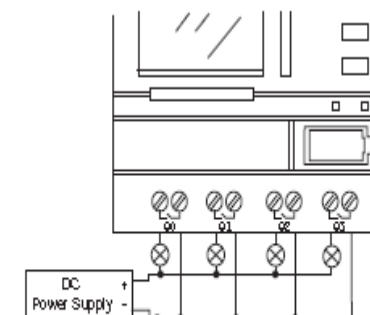


DC Type (Analog)

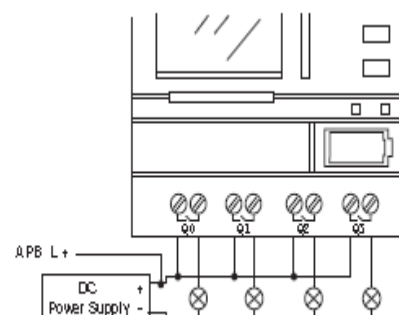
Outputs



Relay Output



NPN Transistor Output



PNP Transistor Output

DC Powered, Relay Outputs

	SR/APB-12MRDL	SR/APB-22MRDL	SR/APB-20ERD
Description	Controller	Controller	Expansion I/O
Dimensions	71 X106 X 67 mm	126 X 106 X 67mm	126 X 106 X 67mm
Power	12 – 24 Vdc	12 – 24 Vdc	12 – 24 Vdc
25 oC time Keeping	80 hours	80 hours	N/A
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	N/A
Inputs	8 (6/8 as Analog)	14 (8/12 as Analog)	14
Input LOW	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc
Input HIGH	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc
Analog Range	0 – 10 Vdc	0 – 10 Vdc	N/A
Delay (ON/OFF)	50 msec	50 msec	50 msec
Outputs	4 Relay	8 Relay	8 Relay
Output Voltage	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc
Output Current	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A
Response HIGH to LOW	8 ms	8 ms	8 ms
Response LOW to HIGH	10 ms	10 ms	10 ms
Short Circuit Protection	20 A	20 A	20 A
ON/OFF Frequency	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz
HMI (Operator Interface)	4 Lines X 9 char 64 Msgs, 32 Fnc Keys	4 Lines X 10 char 64 Msgs, 32 Fnc Keys	N/A
SR DC inputs allow 6 (8) channels as Analog. APB DC inputs allow 8 (12) channels as Analog, 4 channels as High Speed Digital.			

DC Powered, NPN (SINK) Transistor Outputs

	SR/APB-12MTDL	SR/APB-22MTDL	SR/APB-20ETD
Description	Controller	Controller	Expansion I/O
Dimensions	71 X106 X 67 mm	126 X 106 X 67mm	126 X 106 X 67mm
Power	12 – 24 Vdc	12 – 24 Vdc	12 – 24 Vdc
25 oC time Keeping	80 hours	80 hours	N/A
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	N/A
Inputs	8 (6/8 as Analog)	14 (8/12 as Analog)	12
Input LOW	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc
Input HIGH	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc
Analog Range	0 – 10 Vdc	0 – 10 Vdc	N/A
Delay (ON/OFF)	50 msec	50 msec	50 msec
Outputs	4 NPN Transistors	8 NPN Transistors	8 NPN Transistors
Output Voltage	0 – 24 Vdc	0 – 24 Vdc	0 – 24 Vdc
Output Current	2 Amp	2 Amp	2 Amp
Response HIGH to LOW	8 ms	8 ms	8 ms
Response LOW to HIGH	8 ms	8 ms	8 ms
HMI (Operator Interface)	4 Lines X 9 char 64 Msgs, 32 Fnc Keys	4 Lines X 10 char 64 Msgs, 32 Fnc Keys	N/A

SR DC inputs allow 6 (8) channels as Analog. APB DC inputs allow 8 (12) channels as Analog, 4 channels as High Speed Digital. APB Transistor Outputs provide 2 channels High Speed Outputs

DC Powered, PNP (SOURCE) Transistor Outputs

	SR/APB-12MGDL	SR/APB-22MGDL	SR/APB-20EGD
Description	Controller	Controller	Expansion I/O
Dimensions	71 X 106 X 67 mm	126 X 106 X 67mm	126 X 106 X 67mm
Power	12 – 24 Vdc	12 – 24 Vdc	12 – 24 Vdc
25 oC time Keeping	80 hours	80 hours	N/A
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	N/A
Inputs	8 (6/8 as Analog)	14 (8/12 as Analog)	14
Input LOW	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc
Input HIGH	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc
Analog Range	0 – 10 Vdc	0 – 10 Vdc	N/A
Delay (ON/OFF)	50 msec	50 msec	50 msec
Outputs	4 PNP Transistors	8 PNP Transistors	8 PNP Transistors
Output Voltage	0 – 24 Vdc	0 – 24 Vdc	0 – 24 Vdc
Output Current	2 Amp	2 Amp	2 Amp
Response HIGH to LOW	8 ms	8 ms	8 ms
Response LOW to HIGH	8 ms	8 ms	8 ms
HMI (Operator Interface)	4 Lines X 9 char 64 Msgs, 32 Fnc Keys	4 Lines X 10 char 64 Msgs, 32 Fnc Keys	N/A

SR DC inputs allow 6 (8) channels as Analog. APB DC inputs allow 8 (12) channels as Analog, 4 channels as High Speed Digital. APB Transistor Outputs provide 2 channels High Speed Outputs

AC Powered, Relay Outputs

	SR/APB-12MRAL	SR/APB-22MRAL	SR/APB-20ERA
Description	Controller	Controller	Expansion I/O
Dimensions	71 X 106 X 67 mm	126 X 106 X 67mm	126 X 106 X 67mm
Power	110-240 Vac	100-240 Vac	100-240 Vac
25 oC time Keeping	80 hours	80 hours	N/A
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	N/A
Inputs	8	12	12
Input LOW	0 – 40 Vac	0 – 40 Vac	0 – 40 Vac
Input HIGH	85 – 240 Vac	85 – 240 Vac	85 – 240 Vac
Delay (ON/OFF)	50 msec	50 msec	50 msec
Outputs	4 Relay	8 Relay	8 Relay
Output Voltage	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc
Output Current	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A
Response HIGH to LOW	8 ms	8 ms	8 ms
Response LOW to HIGH	10 ms	10 ms	10 ms
Short Circuit Protection	20 A	20 A	20 A
ON/OFF Frequency	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz
HMI (Operator Interface)	4 Lines X 9 char 64 Msgs, 32 Fnc Keys	4 Lines X 10 char 64 Msgs, 32 Fnc Keys	N/A

THESE PRODUCTS DO NOT HAVE AN INTEGRATED LCD DISPLAY

Compact Units (8 In, 4 Out)

	SR/APB-12MRA	SR/APB-12MRD	SR/APB-12MTD	SR/APB-12MGD
Description	Controller, no HMI	Controller, no HMI	Controller, no HMI	Controller, no HMI
Dimensions	71 X 106 X 67 mm	71 X 106 X 67 mm	71 X 106 X 67 mm	71 X 106 X 67 mm
Power	110-240 Vac	12 – 24 Vdc	12 – 24 Vdc	12 – 24 Vdc
25 oC time Keeping	80 hours	80 hours	80 hours	80 hours
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	Max +/- 5 s/day	Max +/- 5 s/day
Inputs	8 AC	8 DC (6/8 as Analog)	8 DC (6/8 as Analog)	8 DC (6/8 as Analog)
Input LOW	0 – 40 Vac	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc
Input HIGH	85 – 240 Vac	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc
Delay (ON/OFF)	50 msec	50 msec	50 msec	50 msec
Analog Inputs	N/A	0 – 10 Vdc	0 – 10 Vdc	0 – 10 Vdc
Outputs	4 Relay	4 Relay	4 NPN Transistors	4 PNP Transistors
Output Voltage	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc	0 – 24 Vdc	0 – 24 Vdc
Output Current	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A	2 Amp	2 Amp
Response HIGH to LOW	8 ms	8 ms	8 ms	8 ms
Response LOW to HIGH	10 ms	10 ms	8 ms	8 ms
Short Circuit Protection	20 A	20 A		
ON/OFF Frequency	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz		
HMI (Operator Interface)	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED

SR DC inputs allow 6 channels as Analog. APB DC inputs allow 8 channels as Analog, 4 channels as High Speed Digital. APB Transistor Outputs provide 2 channels High Speed Outputs

THESE PRODUCTS DO NOT HAVE AN INTEGRATED LCD DISPLAY

Standard Units (14 In, 8 Out)

	SR/APB-22MRA	SR/APB-22MRD	SR/APB-22MTD	SR/APB-22MGD
Description	Controller, no HMI	Controller, no HMI	Controller, no HMI	Controller, no HMI
Dimensions	126 X 106 X 67mm	126 X 106 X 67mm	126 X 106 X 67mm	126 X 106 X 67mm
Power	110-240 Vac	12 – 24 Vdc	12 – 24 Vdc	12 – 24 Vdc
25 oC time Keeping	80 hours	80 hours	80 hours	80 hours
Real Time Clock	Max +/- 5s/day	Max +/- 5 s/day	Max +/- 5 s/day	Max +/- 5 s/day
Inputs	14 AC	14 DC (8/12 as Analog)	14 DC (8/12 as Analog)	14 DC (8/12 as Analog)
Input LOW	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc	0 – 5 Vdc
Input HIGH	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc	10 – 24 Vdc
Delay (ON/OFF)	50 msec	50 msec	50 msec	50 msec
Analog Inputs	0 – 10 Vdc	0 – 10 Vdc	0 – 10 Vdc	0 – 10 Vdc
Outputs	8 Relay	8 Relay	8 NPN Transistors	8 PNP Transistors
Output Voltage	0 – 240 Vac 0 – 24 Vdc	0 – 240 Vac 0 – 24 Vdc	0 – 24 Vdc	0 – 24 Vdc
Output Current	Resistive: 10 A Inductive: 2 A	Resistive: 10 A Inductive: 2 A	2 Amp	2 Amp
Response HIGH to LOW	8 ms	8 ms	8 ms	8 ms
Response LOW to HIGH	10 ms	10 ms	8 ms	8 ms
Short Circuit Protection	20 A	20 A		
ON/OFF Frequency	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz	10 Hz Resistive: 2 Hz Inductive: 0.5 Hz		
HMI (Operator Interface)	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED

SR DC inputs allow 8 channels as Analog. APB DC inputs allow 12 channels as Analog, 4 channels as High Speed Digital. APB Transistor Outputs provide 2 channels High Speed Outputs

APB and SR General Specifications

Item	Standard	Conditions
Environment		
Temperature	Cold: IEC-68-2-1 Hot: IEC-202	
Horizontal Installation		0 ~ 55 °C
Vertical Installation		0 ~ 55 °C
Storage/Transportation		-40 °C ~ +70 °C
Relative Humidity	IEC68-2-30	From 5% to 95% without condensation
Air Pressure		From 795 to 1080 Kps
Pollution	IEC68-2-42 IEC68-2-43	SO2 10 cm3/m3, 4 days H2S 1CM2/m3, 4 days
Mechanical		
Protection	54	IP20
Vibration	IEC68-2-6	From 10 to 57 Hz (constant vibration length at 0.15mm) From 57 to 150 Hz (constant acceleration speed 2g)
Brunt	IEC68-2-27	18 time (half sine 15g/11ms)
Fall	IEC68-2-31	Falling high 50 mm
Fee falling (with package)	IEC69-2-32	1m
EMC		
Static Electric Discharge	Level 3	8 KV air discharge, 6 KV contact discharge
Electromagnetic Field	IEC801-3	Field density 10 V/m
Anti-interference	EN55011	Limit class B1
Surge Pulse	IEC801-4 Level 3	2 KV (power line) 2 KV (signal line)
IEC/VDE safety		
Insulation Density	IEC1131	Reach Requirement

APB and SR Optional Equipment Specifications

SR-VPA/VPD	Voice/Telephone Interface
Receive Signal	CCITT-DTMF
Transmit Signal	CCITT-DTMF
Recorded Messages	Number of messages: 99 messages Max Length/message: 15 seconds Total Message Length: 8 minutes

SR-RCA/RCD	Remote Control Receiver
Power	1.5 W
Frequency	VHF (310 Mhz – 340 Mhz) UHF (415 Mhz – 460 Mhz)
Distance	70 meters

SR--TC	Remote Control Transmitter
Power	1.5 W
Frequency	VHF (310 Mhz – 340 Mhz) UHF (415 Mhz – 460 Mhz)
Transmitter Power	3 dbm