

Model:EXM-12DC-DA-R-VN

GENERAL SPECIFICATIONS

Timers : 512

Counters : 512

SMS Message input: 32

SMS Message output: 64

SMS Message input output: 12

Function Blocks: 512

Operation temp.: -20°C-55°C

Storage:-40°C-70°C

Protection: IP20(Non-waterproof)

RTC accuracy : MAX $\pm 2S/day$

RTC Backup at 25 °C: 20 days

Program and settings Backup :10 years

Data Power-off retentivity: 10 years

Modify parameters via keypad LCD: yes

Dimensions: 95*90*67 (Unit: mm)

Certificate: CE

Installation: 35-DIN rail or screw for installation

Expansion capacity: 8 modules (EXM-E-8)

Password protection : 4-digit number password protection or disable program upload function

Communication interface : 1 RS232 port /TTL. The extension port can be worked as RS485 port,
if no IO extension used with CPU.

Communication protocol : Modbus RTU/ASCII



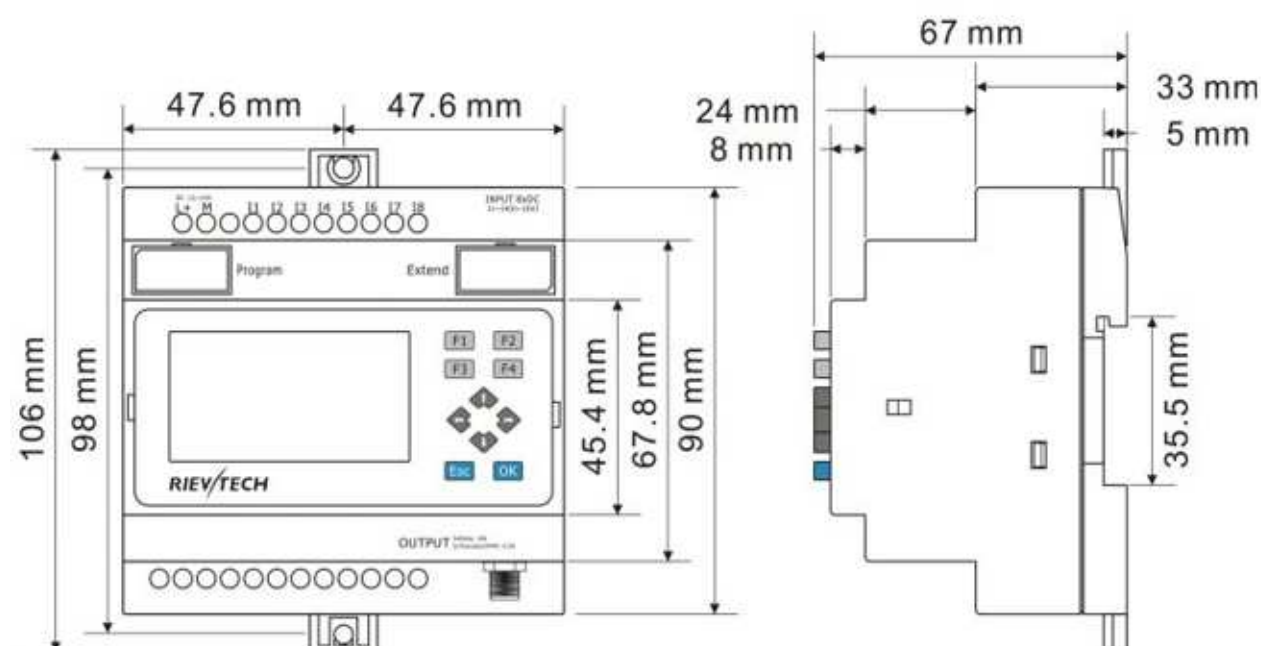
Technical Index

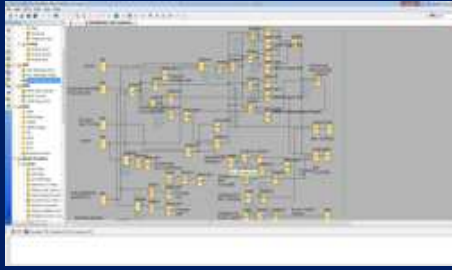
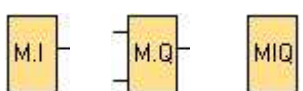
Power supply:	
Nominal voltage	DC 12-24V
Operating limits	DC 10.8-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.5A
Max. absorbed power	Normal: 4W (10.8V dc) ; 4.5 W (28.8V dc) Transient Current: Max. 1A (DC12V)
Protection against polarity inversions	Yes
Input parameters:	
Input No	8 (I1-I8)
Digital input	8 (I1-I8)
Analogue input	4 (I1-I4)(0..10V DC)
Digital inputs(I5-I8)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC; <1mA
Input signal1	> 8 V DC;>1.7mA
Input current	2.3mA @ 10.8V dc

	2.6mA @ 12.0 V dc 5.2 mA @ 24 V dc 6.3 mA @ 28.8 V dc
Response time	0 to 1 : <1 ms ; 1 to 0 : <1 ms
Maximum counting frequency	60k Hz(I7--I8)
Sensor type	Contact or 3-wire PNP
Input type	Resistive
Isolation between power supply and inputs	None
Isolation between inputs	None
Inputs used as digital inputs(I1-I4)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC;<0.1mA
Input signal1	> 8 V DC;>0.3mA
Input current	0.4mA @ 10.8V dc 0.5mA @ 12.0 V dc 1.2mA @ 24 V dc 1.5mA @ 28.8 V dc
Response time	0 to 1 : Typ. 1.5 ms ; 1 to 0 : Typ. 1.5 ms
Maximum counting frequency	Typ.: 4 HZ
Sensor type	Contact or 3-wire PNP
Input type	Resistive
Isolation between power supply and inputs	None
Isolation between inputs	None
Inputs used as analog inputs(I1-I4)	
Measurement range	DC 0---10V
Input impedance	Min, 24K Ω ; Max. 72K Ω
Input voltage	28.8 V DC max
Resolution	10bit ,0.01V
Accuracy at 25 °C	$\pm$ (Max.0.02)V
Accuracy at 55 °C	$\pm$ (Max.0.04)V
Isolation between analog channel and power supply	None
Cable length	10 m max. shielded and twisted
Output parameters:	
Output No.	4 (Q1-Q4)
Output type	4Relay output
Continuous current	Resistive load 10A/Inductive load 2A
Max. breaking voltage	AC 250 V DC 30 V
Max. Allowable Power Force	1250VA 300W
Electrical durability Expectancy	10 ⁵ Operations at Rated Resistive Load
Mechanical life	10 ⁷ Operations at No Load condition
Response time	Operate Time : 15 mSec. Max. Release Time : 10 mSec. Max.
Built-in protections	Against overloads and short-circuits: No Against overvoltages (*): No
Galvanic isolation	None
Switch frequency:	
Mechanism	10Hz

Resistor/light load	2Hz
Sensitive load	0.5Hz
GSM parameter	
Type of mobile wireless service	SMS, GPRS
Operating frequency	850MHz,900MHz,1800MHz,1900MHz,
for GPRS transmission / with downlink / maximum	80 kbit/s
for GPRS transmission / with uplink / maximum	40 kbit/s
Other parameters:	
Ethernet interface	Yes
Voice alarming	Yes
Weight	Approx.500g

Installation Dimensions & Wiring Diagram



SYSTEM	Operating System requirements		Windows /2000/XP/WIN7/WIN8			
	Programming languages		Function block			
	Program Memory		512			
	Execution Speed		<0.1ms per function			
	LCD Display		4 lines x 16 characters			
	Functions		Up to 70 function blocks			
BASIC	Timers					a.On-delay; b.Off-delay etc. Up to 12 kind Timers
	Maximum Number	512				
	Timing Ranges	10ms--99 h59m				
	Counters					a.Up/down Counter b.Hours Counter c.Frequency Threshold Trigger
	Maximum Number	512				
	Highest Count	99999999				
	Resolution	1				a.Weekly Timer b.Yearly Timer
	RTC					
	Number available	512				
	Resolution	1 min				a.Digital Flag b.Analog Flag
	Time span available	Week/year-month-day-hour-min				
	Flags					
	Digital flags	128				a.PI Controller
	Analog flags	256				
	PI Functions					
	Number available	30				a.Analog Math b.Analog Math Error detection
	Parameter Ranges	1-32767				
	Analog Math					
	Number available	512				a. Analog Ramp
	Function	ADD, Subtract,Multiply, Divide				
	Analog Ramp Function					
	Number available	55				a.Analog compactor b.Comparison of 2 values
	Compare Function					
	Number available	512				
Special Functions	HMI Screens					a.Message texts
	Number available	128				
	Display/Edit	Preset Current value and Free text				
	SMS Functions (sms message input; sms message output;sms message input output)					
	Number available	(32; 64; 12)				
	Communication Functions					a.Modbus write b.Modbus read
	Number available	512(Only CPU works as Master need these 2 blocks, slave does not need)				
	Word/bit data Conversion	Square Boot	Sin/Cos	RS latch relay		
	Data-logger Function	Analog watchdog	Analog filter	Average value		
	Pumps Management	Defrost function	Multiplexer	Pulse Relay		
	Cam Control	Astronomical clock	Stop watch	Boolean function		
	Note: 1.Not all program functions are listed in this table i.e. AND,NAND,OR,NOT,NOR,XOR,SHIFT REGISTER,DATA LATCHING RELAY, COMPORT STATUS etc.					

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