

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

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



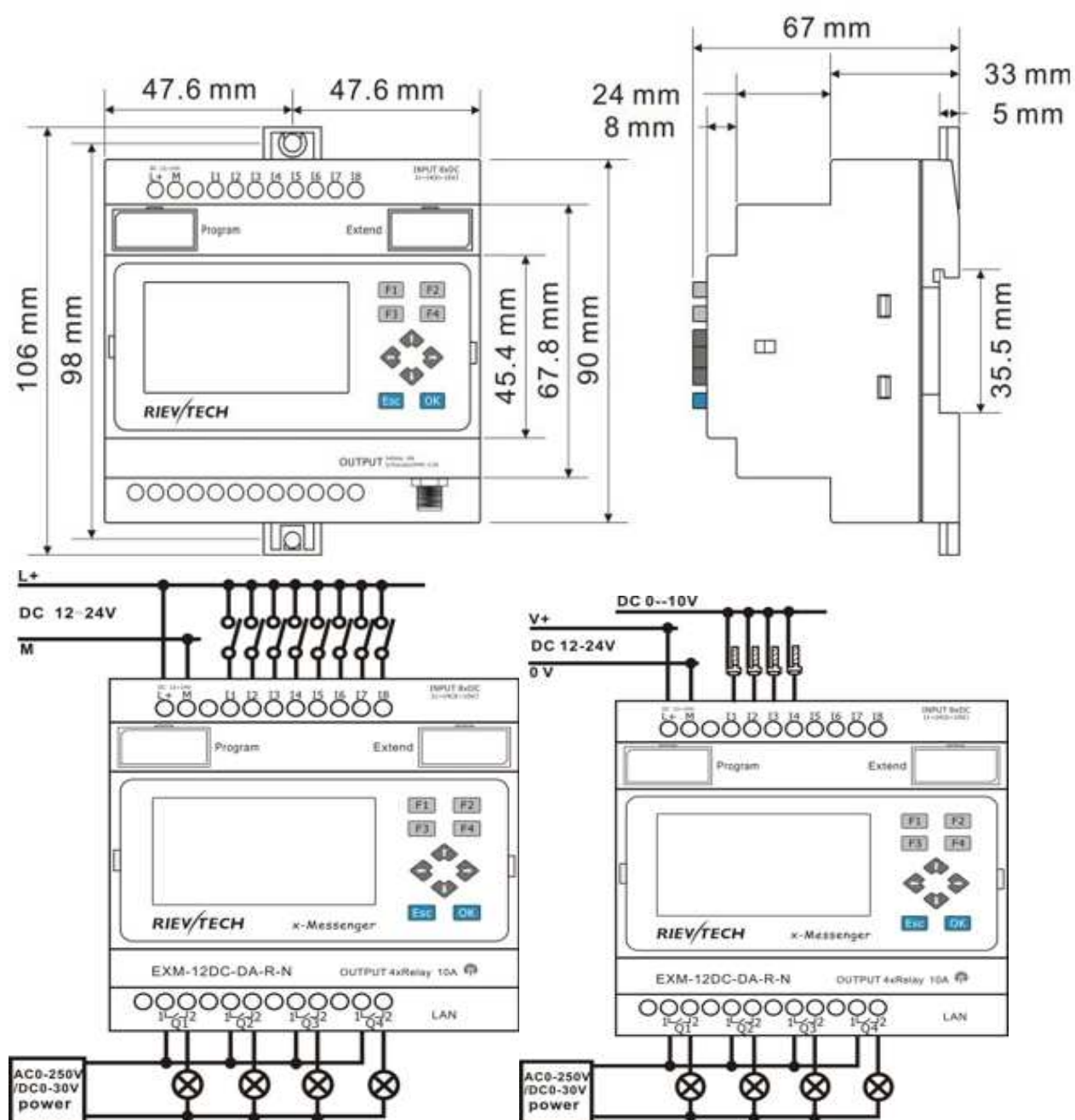
Technical Index

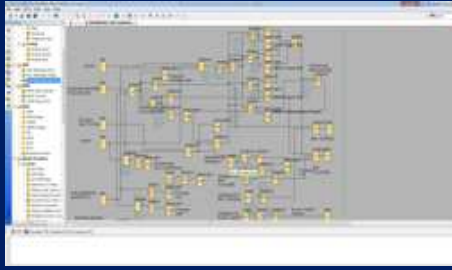
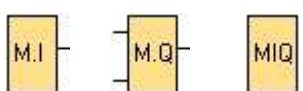
Power supply:	
Nominal voltage	DC 12-24V
Operating limits	DC 10.8-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.5A
Max. absorbed power	Normal: 4 W (10.8V dc) ; 4.5 W (28.8V dc) Transient Current: Max. 1A (DC12V)
Protection against polarity inversions	Yes
Input parameters:	
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	No
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				
	RTC					a.Weekly Timer b.Yearly Timer
	Number available	512				
	Resolution	1 min				
	Time span available	Week/year-month-day-hour-min				
	Flags					a.Digital Flag b.Analog Flag
	Digital flags	128				
	Analog flags	256				
	PI Functions					a.PI Controller
	Number available	30				
	Parameter Ranges	1-32767				
	Analog Math					a.Analog Math b.Analog Math Error detection
	Number available	512				
	Function	ADD, Subtract,Multiply, Divide				
Analog Ramp Function					a. Analog Ramp	
Number available	55					
Compare Function					a.Analog compactor b.Comparison of 2 values	
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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