

◆ Technical Data:

Model:EXM-12DC-DAI-R

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 ±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



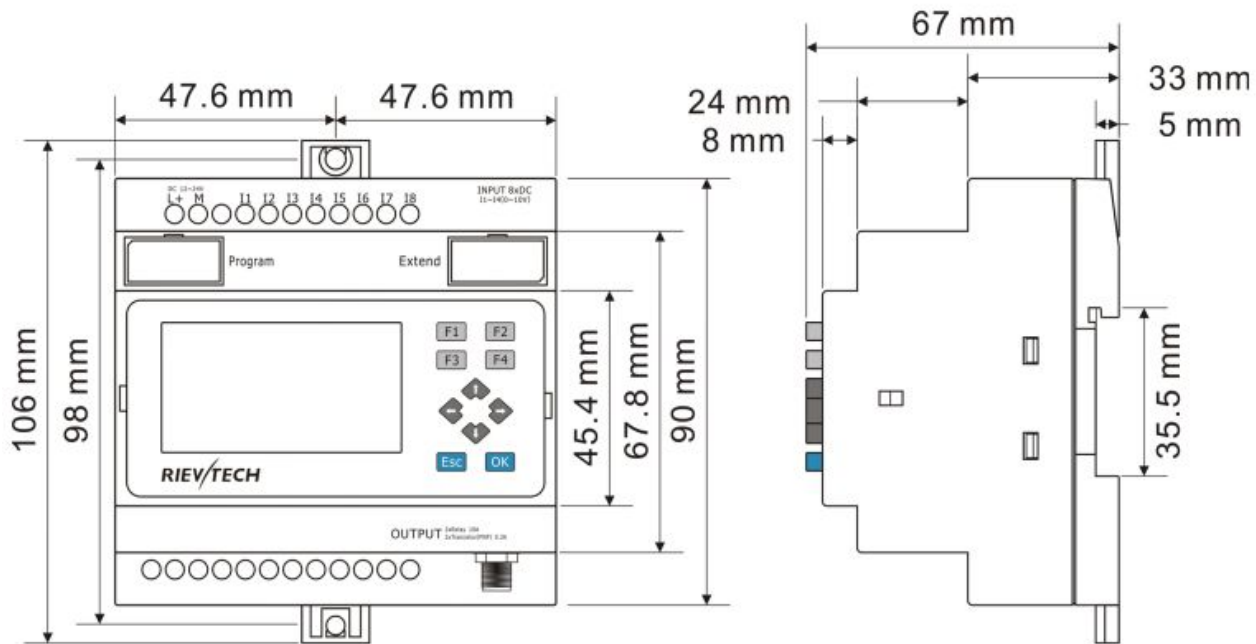
Technical Index

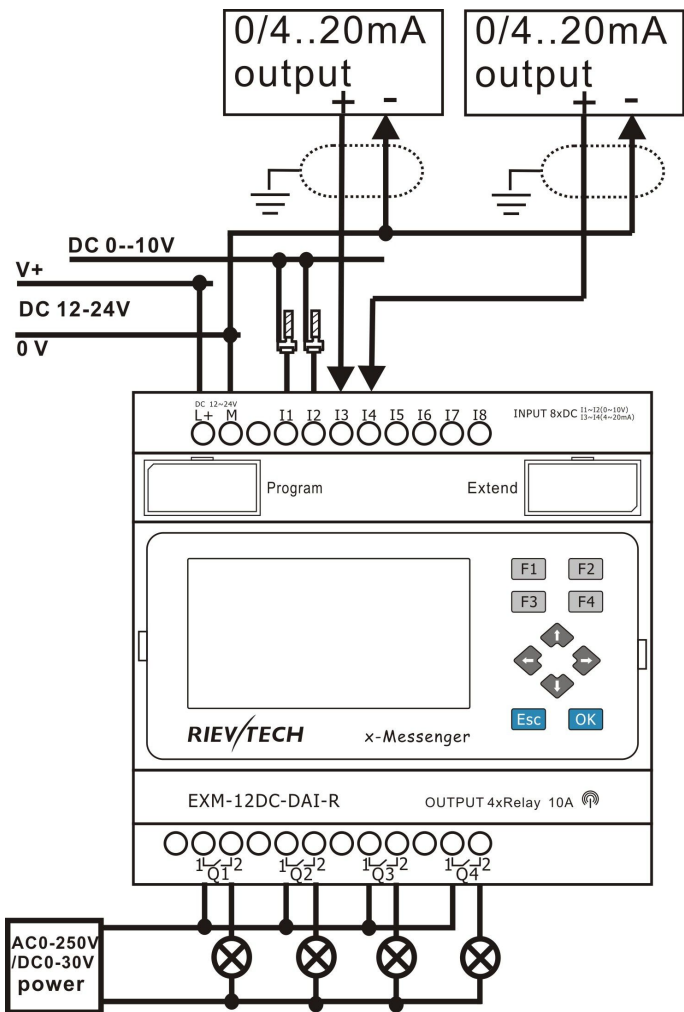
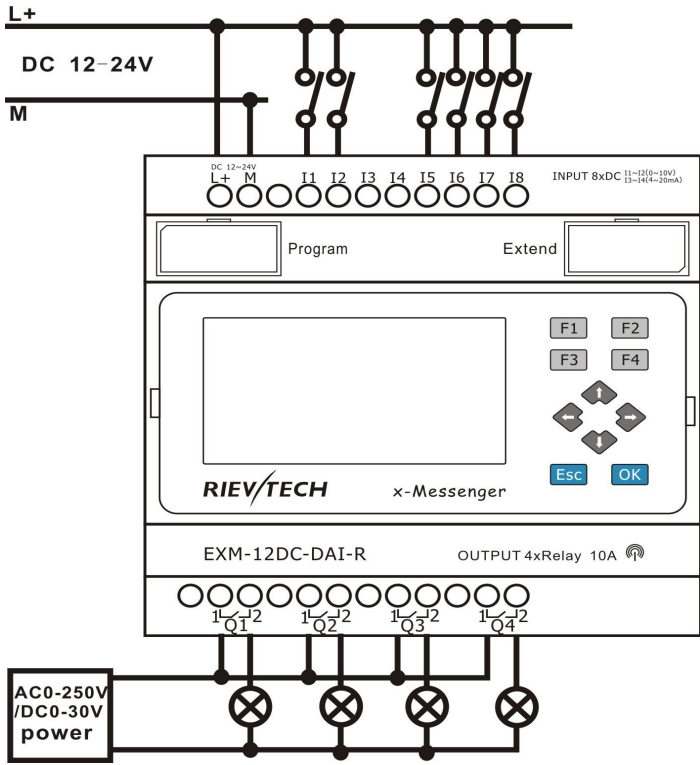
Power supply:	
Nominal voltage	DC 12-24V
Operating limits	DC 10.8-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.5A
Max. absorbed power	Normal: 3.3 W (10.8V dc) ; 3.8 W (28.8V dc) Transient Current: Max. 1A (DC12V)
Protection against polarity inversions	Yes
Input parameters:	
Input No	8 (I1-I8)
Digital input	6 (I1-I2,I5-I8)
Analogue input	2 (I1-I2)(0..10V DC) +2(I3-I4)(0/4...20mA)
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-I2)	
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-I2)	
Measurement range	DC 0---10V(I1-I2),
Input impedance	Min, 24K Ω ; Max. 72K Ω
Input voltage	28.8 V DC max
Resolution	10bit ,0.01V
Isolation between analog channel and power supply	None
Cable length	10 m max. shielded and twisted
Current input(I3-I4)	
Measurement range	0/4...20mA(I3--I4)
Resolution	0.02mA
Accuracy at 25 °C	0.05mA
Cycle time for analog value generation	Typ. 50 ms
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	No
Voice alarming	No
Weight	Approx.500g

Installation Dimensions & Wiring Diagram





SYSTEM				FUNCTION BLOCKS		
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						
Maximum Number	512		a.On-delay; b.Off-delay etc. Up to 12 kind Timers			
Timing Ranges	10ms--99 h59m					
Counters						
Maximum Number	512		a.Up/down Counter b.Hours Counter c.Frequency Threshold Trigger			
Highest Count	99999999					
Resolution	1					
RTC						
Number available	512		a.Weekly Timer b.Yearly Timer			
Resolution	1 min					
Time span available	Week/year-month-day-hour-min					
Flags						
Digital flags	128		a.Digital Flag b.Analog Flag			
Analog flags	256					
PI Functions						
Number available	30		a.PI Controller			
Parameter Ranges	1-32767					
Analog Math						
Number available	512		a.Analog Math b.Analog Math Error detection			
Function	ADD, Subtract,Multiply, Divide					
Analog Ramp Function						
Number available	55		a. Analog Ramp			
Compare Function						
Number available	512		a.Analog compactor b.Comparison of 2 values			
Special Functions						
HMI Screens						
Number available	128		a.Message texts			
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						
Number available	512(Only CPU works as Master need these 2 blocks, slave does not need)		a.Modbus write b.Modbus read			
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.						