

Model:EXM-12DC-DA-RT-WIFI

GENERAL SPECIFICATIONS

Timers : 512

Counters : 512

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



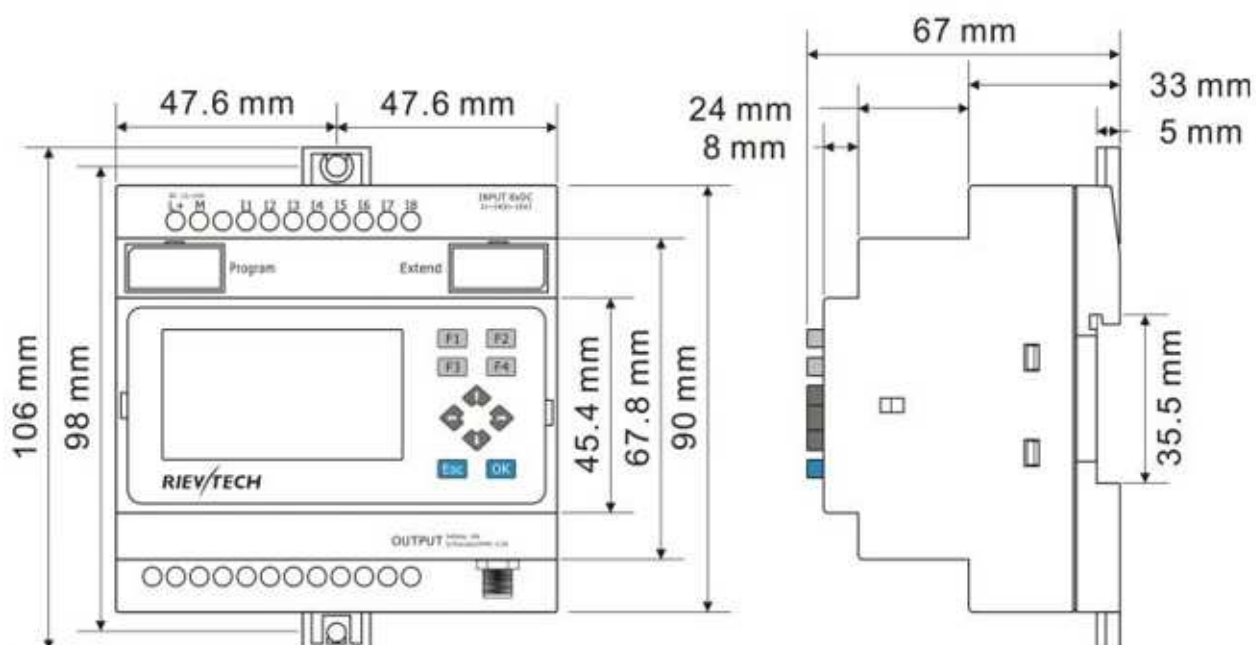
Technical Index

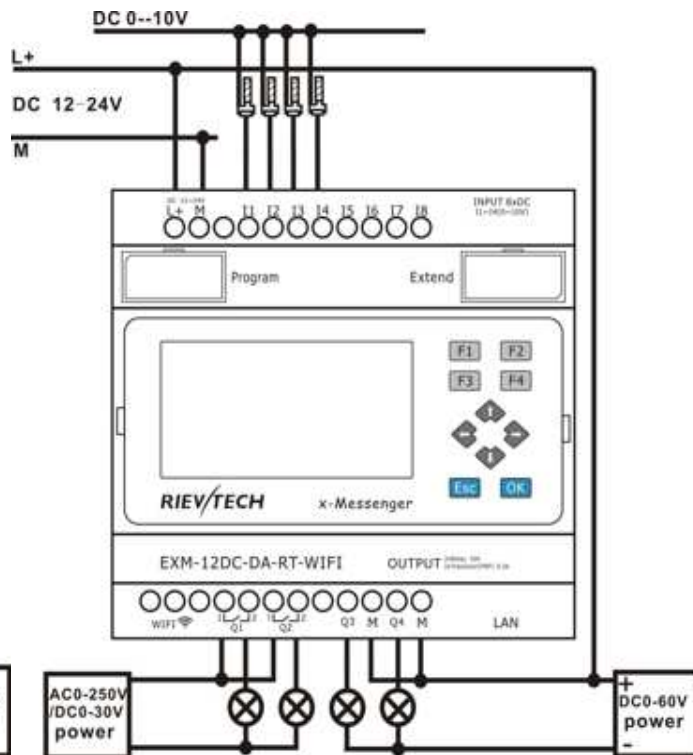
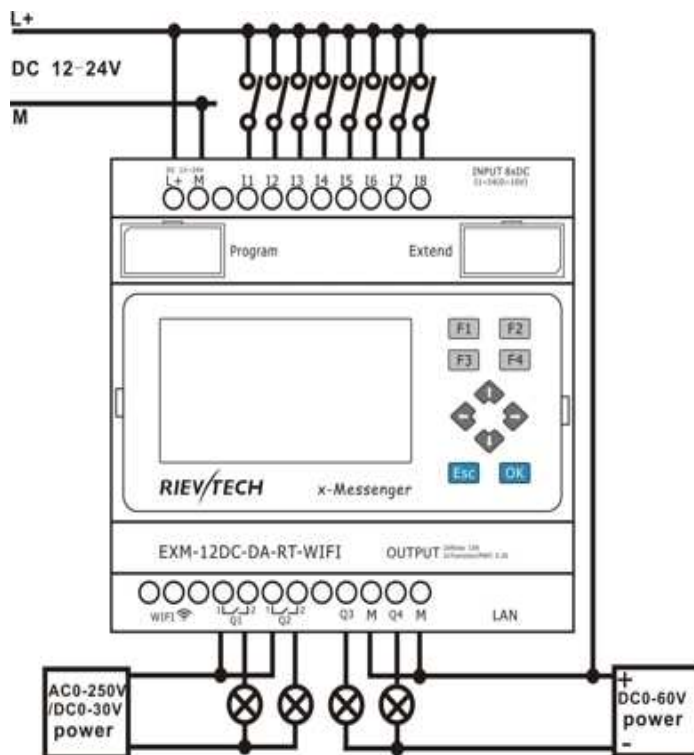
Power supply:	
Nominal voltage	DC 12-24V
Operating limits	DC 10.8-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.25A
Max. absorbed power	3.5 W (10.8V dc) ; 4 W (28.8V dc)
Protection against polarity inversions	Yes
Input parameters:	
Input No	8 (I1-I8)
Digital input	8 (I1-I8)
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

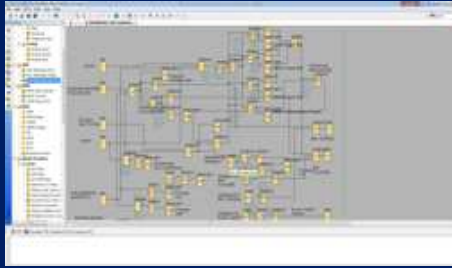
Maximum counting frequency	60k Hz(I7--I8)
Sensor type	Contact or 3-wire PNP
Input type	Resistive
Isolation between power supply and inputs	None
Isolation between inputs	None
Inputs used as digital inputs(I1-I4)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC; <0.1mA
Input signal1	> 8 V DC; >0.3mA
Input 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	2Relay output +2 Transistor(PNP) output
Continuous current	(Q1-Q2)Resistive load 10A/Inductive load 2A (Q3-Q4) Max. 0.3 A per channel
Max. breaking voltage	(Q1-Q2) AC 250 V DC 30 V (Q3-Q4) $\leq$ Supply voltage
Max. Allowable Power Force	(Q1-Q2)1250VA 300W (Q3-Q4) 9 W
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
PWM frequency(Q3-Q4)	1K HZ
PWM cyclic ratio(Q3-Q4)	0 to 100 %
PWM accuracy at 120Hz(Q3-Q4)	< 0.5 % (20 % $\rightarrow$ 80 %) load at 10 mA

Max. Breaking current PWM(Q3-Q4)	50 mA
Switch frequency:	
Mechanism	10Hz
Resistor/light load	2Hz
Sensitive load	0.5Hz
Built-in wireless parameters:	
Support 802.11b/g/n wireless standards	
Support TCP/IP/UDP network protocols	
Support work as STA/AP mode	
Support Router/Bridge mode networking	
Support Transparent/Agreement Transmission Mode(Transparent used by EXM CPU)	
Support Friendly Web Configuration Page or configuration by eSmsconfig	
Outdoor 100m with 3dBi antenna and indoor 40m	
FCC /CE Certificated	
Other parameters:	
Ethernet port:	Built-In(10M/100M)
Xlogic<--->Xlogic(by Wifi)	1 xlogic works as server can connect 32 client xlogics.
Xlogic<--->Etherne/Internet:	xlogic works as TCP server or TCP client
Weight	Approx.300g

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					
	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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