AMC10R din rail energy meter

Installation and operation instruction V1.0

Acrel Co., Ltd.

Declaration

The company reserves the right to modify the specifications described in this manual without prior notice.Before ordering,please consult your local agent for new specifications.
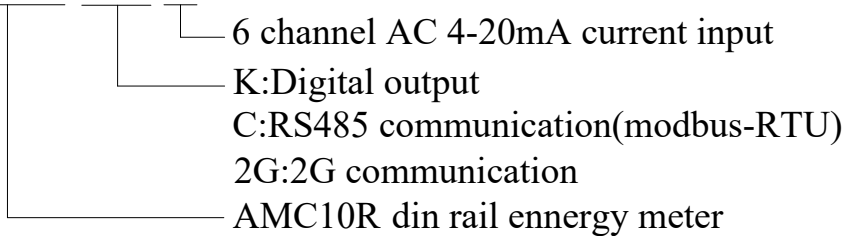
Contents

1 Overview

AMC10R din rail energy meter with 6 channel AC hall input, three channel digital output, 485 communication, 2G communication, mainly designed for charging pile occasions.The test results can not only be used for local display, but also can be connected with industrial control equipment, computer, to form a measurement and control system.
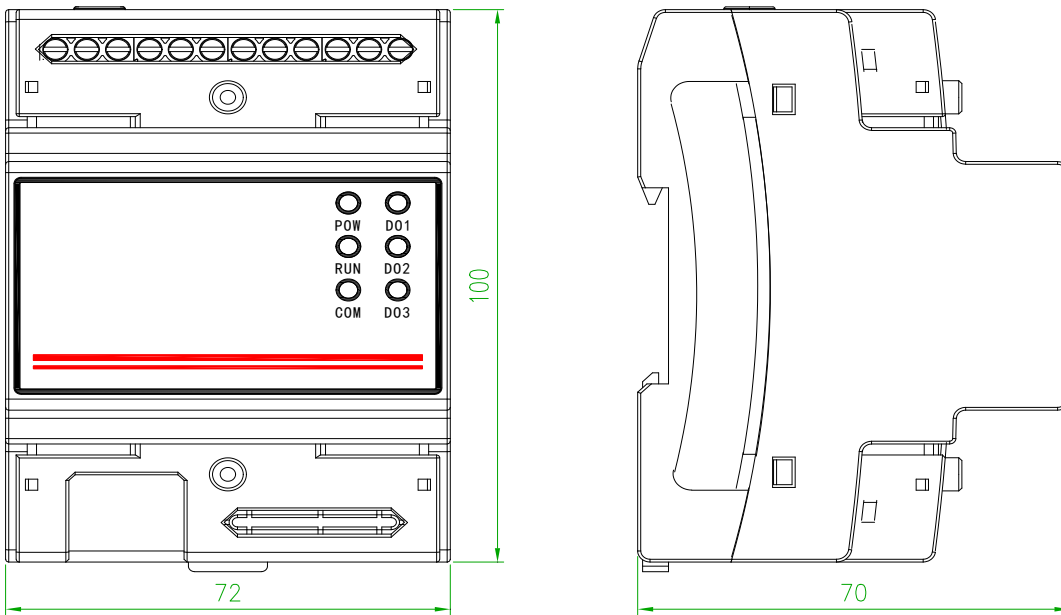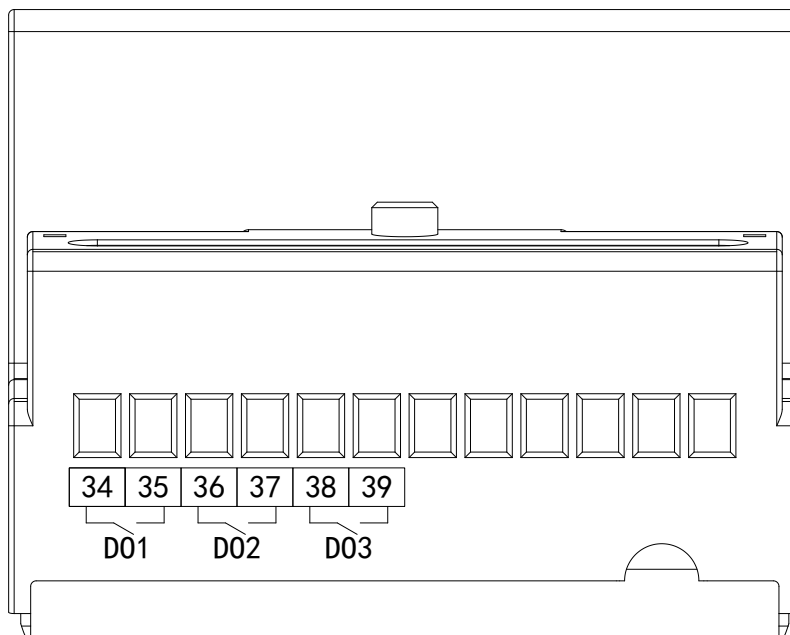
2 Product type

AMC10R-KC2G-6

— 6 channel AC 4-20mA current input
— K:Digital output
— C:RS485 communication(modbus-RTU)
— 2G:2G communication
— AMC10R din rail ennergy meter

3 Technical parameter

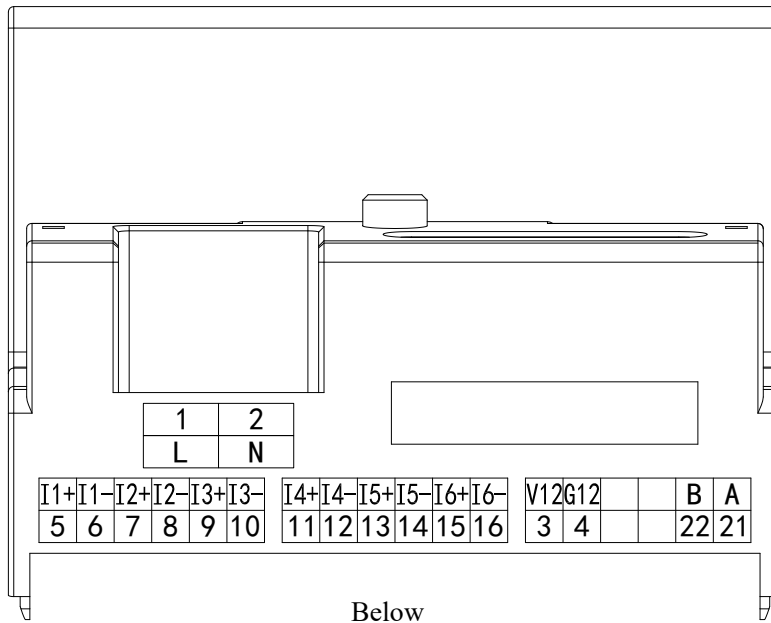| Technical parameter			Index
	Frequency		45～65Hz
	Current		rated：AC 4~20mA
			Power consumption：＜ 0.2VA（each channel）
	Communication		RS485 port、Modbus-RTU protocol；DLT645 protocol
	Switch	Output	Output：3 channel relay output
			Relay capacity：AC 250V/3A、DC 30V/3A
	Accuracy		Current 0.5 class
	Power supply		AC/DC 85～265V；power consumption≤4VA
Safety	Power frequency withstand voltage		The power frequency withstand voltage between the shell and the auxiliary power supply, the input and output terminal groups is AC 4KV /1min; The power frequency withstand voltage between the auxiliary power supply and the input terminals and the output terminal groups is AC 2kV/1min; The power frequency withstand voltage between the voltage input and other input and output terminal groups is AC 2kV/1min; The power frequency withstand voltage between the current input and other input and output terminal groups is AC 2kV/1min; The power frequency withstand voltage between the relay output and other input and output terminal groups is AC 2kV/1min; The power frequency withstand voltage between each terminal group of switching input, communication, analog output and pulse output is AC 1KV /1min;
	Insulation resistance		Input and output to shell > 100 m Ω
	Environment		Operating temperature: -10℃ ~ +55℃; Storage temperature: -25℃ ~ +70℃; 5% ~ 95% no dew; Altitude: ≤2500m;

4 Installation and wiring

4.1 Dimension and installing description (Unit: mm)

POW   DO1
RUN   DO2
COM   DO3

100

72

70

4.2 Installing description

| 34 | 35 | 36 | 37 | 38 | 39 |

DO1   DO2   DO3

Above

2

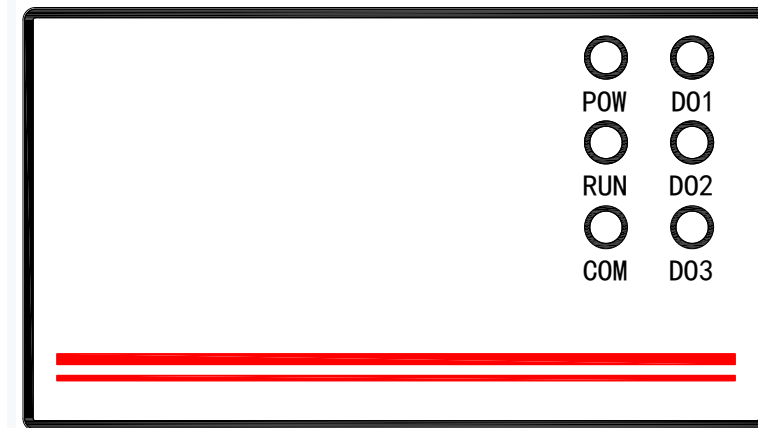|	1	2													B	A
	L	N														
I1+	I1−	I2+	I2−	I3+	I3−		I4+	I4−	I5+	I5−	I6+	I6−	V12	G12		B	A
5	6	7	8	9	10		11	12	13	14	15	16	3	4		22	21

Below

5 Display

There are six indicator lights on the panel of AMC10R, namely POW,RUN,COM,DO1,DO2 and DO3, as shown in the figure. The meaning of each indicator light is shown in the table below.

Indicator	Significance
POW	power light
RUN	working
COM	communication（RS485）
DO1	1 relay output
DO2	2 relay output
DO3	3 relay output

6　Communication

6.1 Communication address list

	Address	Name	Data type	Data length (byte)	Attribute	Note
485 communication	00H	address	uint16_t	2	R/W	1-247 254:Universal address
	01H	baud rate	uint16_t	2	R/W	0:1200 1:2400 2:4800 3:9600 4:19200 5:38400
	02H	check way	uint16_t	2	R/W	0：None　1：EVEN 2：ODD
	03H-06H			Reserved		
Parameter	07H	DO1	uint16_t	2	R/W	Relay test 0：off 1：on
	08H	DO2	uint16_t	2	R/W	
	09H	DO3	uint16_t	2	R/W	
	0AH	#1-CT1	uint16_t	2	R/W	
	0BH	#1-CT2	uint16_t	2	R/W	
	0CH	#1-CT3	uint16_t	2	R/W	
	0DH	current shielding value	uint16_t	2	R/W	0.10%
	0EH	#1 relay operating mode	uint16_t	2	R/W	0：remote　1：alarm
	0FH	#1delay time	uint16_t	2	R/W	1-9999　unit：S
	10H	#1 alarm hysteresis value	uint16_t	2	R/W	0.1A
	11H	#1 high alarm setting value	uint16_t	2	R/W	0.1A
	12H	#1 low alarm setting value	uint16_t	2	R/W	0.1A
	13H	#1 zero alarm enablement	uint16_t	2	R/W	0：off　1：on
	14H-19H	#2 relay setting	uint16_t	6*2	R/W	
	1AH-1FH	#3 relay setting	uint16_t	6*2	R/W	
	20H-23H	System time	uint8_t	4*2	R/W	Year, month, day ,week,hour,minute,seconds reserved
	24H	Current zero adjust	uint16_t	2	R/W	0x6601:#1 channel 1　0x6602:#1 channel 2 0x6603:#1 channel 3 0x660F:#1 all

						0x6611:#2 channel 1　　0x6612:#2 channel 2 0x6613:#2 channel 3 0x661F:#2 all 0x66FF:#1/#2 all
	25H-2BH	Instrument serial number	uint8_t	7*2	R/W	
	2CH-2FH	Reserved				
	30H	#2-CT1	uint16_t	2	R/W	
	31H	#2-CT2	uint16_t	2	R/W	
	32H	#3-CT3	uint16_t	2	R/W	
	33H-38H	Reserved				
Wireless parameter	39H	Timed upload interval	uint16_t	2	R/W	unit：min
	3AH 3BH	4 bit IP address	uint8_t	4	R/W	IP[0]..IP[4]　　IP[0]start
	3CH	port number	uint16_t	2	R/W	
	3DH	Domain identifier	uint16_t	2	R/W	0：IP address　　1：domain name
	3EH-5DH	domain name	uint8_t	32*2	R/W	ASCII　　　DN[0]is low DN[64]is high
	5EH-6DH	ClientID	uint8_t	16*2	R/W	ASCII　　　ID[0]is low ID[31]is high
	6EH-7DH	ClientName	uint8_t	16*2	R/W	ASCII　　　name[0]is low name[31]is high
	7EH-8DH	Password	uint8_t	16*2	R/W	ASCII　　password[0]is low password[31]is high
	8EH	Qos	uint16_t	2	R/W	
	8FH-AEH	Topic 1	uint8_t	32*2	R/W	ASCII
	AFH-CEH	Topic 2	uint8_t	32*2	R/W	
	CFH-EEH	firmware address	uint8_t	32*2	R/W	
	EFH-F8H	APN_Add	uint8_t	10*2	R/W	
	F9H-102H	APN_Name	uint8_t	10*2	R/W	
	103H-10CH	APN_Password	uint8_t	10*2	R/W	
	10DH-11FH	Reserved				
Parameter read	120H-121H	#1 channel 1 current I1	int32_t	4	R	unit：0.001A
	122H-123H	#1 channel 2 current I2	int32_t	4	R	

	124H-125H	#1 channel 3 current I3	int32_t	4	R	
	126H	DO1 Current action state	uint16_t	2	R	Current relay state High：1：Low alarm 2：High alarm Low：0：off 1：on
	127H	DO2 Current action state	uint16_t	2	R	
	128H	DO3 Current action state	uint16_t	2	R	
	129H	Reserved				
	12AH-12BH	#2 channel 1 current I1	int32_t	4	R	unit：0.001A
	12CH-12DH	#2 channel 2 current I2	int32_t	4	R	
	12EH-12FH	#2 channel 3 current I3	int32_t	4	R	
Test parameter	130H-131H	#1 Channel 1 calibration factor	float	4	R	
	132H-133H	#1 Channel 2 calibration factor	float	4	R	
	134H-135H	#1 Channel 3 calibration factor	float	4	R	
	136H-137H	#1 Channel 1 sampling values	uint32_t	4	R	
	138H-139H	#1 Channel 2 sampling values	uint32_t	4	R	
	13AH-13BH	#1 Channel 3 sampling values	uint32_t	4	R	
	13CH-13DH	#2 Channel 1 calibration factor	float	4	R	
	13EH-13FH	#2 Channel 2 calibration factor	float	4	R	
	140H-141H	#2 Channel 3 calibration factor	float	4	R	
	142H-143H	#2 Channel 1 sampling values	uint32_t	4	R	

	144H-145H	#2 Channel 2 sampling values	uint32_t	4	R	
	146H-147H	#2 Channel 3 sampling values	uint32_t	4	R	
	148H-14FH	Reserved				
	150H	Software number	uint16_t	2	R	
	151H	Software version number	uint16_t	2	R	
	152H	Server connection status/signal value	uint16_t	2	R	High 8-bit: Server connection status Low 8-bit: signal value
	153H-15EH	SIM card CCID	uint8_t	12*2	R	
	15FH-168H	IMEI	uint8_t	10*2	R	
	169H	Wireless send times	uint16_t	2	R	
	16AH	Wireless receive times	uint16_t	2	R	
Summation	180H-181H	Current sum I1sum	int32_t	4	R	unit：0.001A
	182H-183H	Current sum I2sum	int32_t	4	R	
	184H-185H	Current sum I3sum	int32_t	4	R	