

DJSF1352 Electronic DC Energy Meter

Installation Manual V1.2

Acrel Co.,Ltd.

Declaration

The copyright is the property of Acrel. Any information in any paragraph or section cannot be extracted, copied or otherwise reproduced or propagated. Otherwise offenders shall take all consequences.

All rights are reserved.

Acrel reserves the right to modify the product specifications herein without notification. Please consult the local agent about the latest specifications before placing a purchase order.

Manual revision log				
New version Old version Reason for revision				
V1.0	/	Create the first edition.		
V1.1	V1.0	Standardize the torque of screwdrivers and formulate installation requirements.		
V1.2	V1.1	Modify the power supply description.		

1. Overview	1
2. Specifications and main technical parameters	1
2.1 Specification	1
2.2 Technical parameter	2
3. Installation requirements	3
3.1 Purpose	3
3.2 Scope of application	3
3.3 Instruments, equipment, consumables	3
3.4 General requirements	3
4.Installation and usage	4
4.1 Shape and dimension	4
4.2 Terminal wiring diagram	4
4.3 Precautions	7
5. Display and operation	7
5.1 Display method	7
5.2 Display function	7
5.3 Pulse indicator	8
6. Communication	8
6.1 Communication Interface	. 8
6.2 Data read and write	8
6.3 Communication parameter setting	8
6.4 Modbus communication address table	9
6.5 DL/T645-2007 Statute Data Identification	14
6.6 DL/T698.45 protocol	16
7. Precautions for storage and transportation	17

Content

1. Overview

DJSF1352 type electronic DC electric energy meter adopts liquid crystal display,has RS485 function and can exchange data with microcomputer. It is suitable for power measurement and electric energy measurement of DC signal equipment such as charging piles,batteries,solar panels,etc.,and can also be used in industrial and mining enterprises,civil buildings,building automation and other modern DC power supply and distribution systems.

The product is composed of measuring unit,data processing unit,communication unit,display unit,etc. It has the functions of electric energy measurement,data processing,real-time monitoring and LCD display. This meter complies with GB/T33708-2017 static DC energy meter,GB/T29318-2012 electric vehicle off-board charging energy measurement,Q/GDW1825-2013 DC energy meter technical specification,Q/GDW364-2009 single-phase smart energy meter technical specification related technical requirements.

The DJSF1352 product is feature-rich and can meet a variety of application requirements. The main functions are as follows:

- ★ With positive and negative active electric energy metering function, combined electric energy = positive + negative;
- ★ Voltage,current,power measurement;
- \star Last 12 months settlement function;
- ★ It has the function of automatic conversion of calendar, timing and leap year, and has the function of time-calibration. Among them, the clock error issued by the broadcast shall not be greater than 5 minutes. If the time is not calibrated within ten minutes before and after zero o'clock, the time calibration is only allowed once a day;
- ★ There are two sets of rate periods, and the automatic conversion of the two sets of rate periods can be realized through the preset time. At least two time zones can be set for each set of rate periods throughout the year, and at least 8 periods can be set within 24 hours, with the minimum period. The interval is 15 minutes, and the time period can be set across zero;
- ★ There are infrared communication interface and RS-485 communication interface, and adopt DL/T645-2007 communication protocol, DL/T698.45 communication protocol and Modbus-RTU protocol. The communication rate of RS485 can be set to 1200bps, 2400bps, 4800bps, 9600bps, and the modulation infrared is fixed at 1200bps.

2. Specifications and main technical parameters

2.1 Specification

- ★ Accuracy: class 1
- ★ Rated voltage (Ub): 100V,350V,500V,750V,1000V,etc.
- ★ Calibration current (In): 300A (can be set), shunt supports output 0-75mV, Hall current sensor supports output 0-20mA and 0-5V
- ★ Auxiliary power supply: (Optional, confirmation is required when placing an order)
 DC power supply: DC 12V or DC 24V or DC 48V (± 10%); AC power supply: AC 85V 265V

\star Pulse constant:

Rated voltage	Calibration	Pulse constant	
(V)	current (A)	(imp/kWh)	
750	300	100	
750	200	100	
750 150		100	
750	100	100	
1000	300	100	
1000	800	10	

2.2 Technical parameter

2.2.1 Basic error

Under the rated voltage (Ub), the basic error of the electric energy meter should not exceed the error limit of the following table.

Table 1 Basic error of electric energy meter	Table 1	Basic erro	r of electric	energy meter
--	---------	------------	---------------	--------------

Load current (I) variation range	Error limit
0.02In≤I<0.05In	±1.5%
0.05In≤I≤Imax	±1 .0%

2.2.2 Measuring voltage range

Table 2 Measuring voltage range

Specified range	0.4 Ub -1.1Ub(Umax<1000V)
Extended range	0.1Ub -1.15Ub(Umax<1000V)

2.2.3 Creep

When there is no current in the current line of the meter (the current line should be open during the test), and the maximum voltage is applied to the voltage line, the test output of the meter should not generate more than one pulse within the time specified Δt by the following formula.

$$\Delta t \ge \frac{k \times 10^6}{CU_{\max} I_{\max}}$$

In the formula:

 Δt —The shortest test time of creep, the unit is minutes (min);

k —Meter accuracy class adjustment constant. Take 600 for a Class 1 meter;

C —Meter pulse constant, expressed in pulses per kilowatt-hour (imp/kWh);

Umax — Maximum voltage, in volts (V);

Imax —Maximum current, in ampere (A);

2.2.4 Power consumption

Table 3 Power consumption

Voltage line	≤0.5VA
Current line	≤0.1VA
Auxiliary power circuit (DC power supply)	≤2VA
Auxiliary power circuit (AC power supply)	≤2W

2.2.5 Working environment conditions

Table 4 Working Environment Conditions

Working temperature range	$-40^{\circ}\mathrm{C}$ $+70^{\circ}\mathrm{C}$
Extreme operating temperature range	$-40^{\circ}\mathrm{C}$ \rightarrow $+70^{\circ}\mathrm{C}$
Storage and transportation limit temperature	$-40^{\circ}\mathrm{C}$ \rightarrow $+70^{\circ}\mathrm{C}$
Relative humidity	<75%(The annual average)

2.2.6 Communication Interface

Table 5 Communication interfac

Communication baud	RS485: 1200/2400/4800/9600,2-way		
rate	RS485 is optional		
Data Format	O/E/N-8-1/2, factory default E-8-1		
Communication	DL/T698.45 protocol,DL/T645-2007		
protocol	protocol,Modbus-RTU protocol		

2.2.7 Mechanical parameters

★ Dimensions: 160±0.5mm (length) 112±0.5mm (width) 58±0.5mm (thickness)

★ Weight: about 0.5kg

3. Installation requirements

3.1 Purpose

In order to standardize the selection of screwdriver torque and ensure the standardization of tibial screw torque, this requirement is specially formulated.

3.2 Scope of application

This requirement applies to all kinds of screwdriver processes in the workshop.

3.3 Instruments, equipment, consumables

Electric screwdriver, pneumatic screwdriver

3.4 General requirements

Table 6	General	requirements
10010 0		

Serial	Screw	Screw	Screwdriver	Screwdriver	Unscrew	Can't unscrew
number	Specifications	fixing	type	torque(kgf.cm)	torque(kgf.cm)	torque(kgf.cm)
1	M6 screw	Terminal	Electric	8-12	12	6
			screw driver			
2	M5 screw	Terminal	Electric	8-12	12	6
			screw driver			

3	M4 screw	Terminal	Electric	6-8	8	4
			screw driver			
4	M3 screw	Terminals,1	Electric	4-6	6	2
		ugs,pulses	screw driver			
5	M2.5 screw	Terminals,1	Electric	3-4	4	2
		ugs,pulses	screw driver			

4.Installation and usage

4.1 Shape and dimension

The electric energy meter should be installed indoors. The bottom plate on which the electric energy meter is installed should be placed on a solid fire-resistant wall. The recommended installation height is about 1.8m. There is no corrosive gas in the air. The upper part of the meter has hook screw holes with M4 hook screws, and the lower part of the meter has 2 mounting holes to be fixed on the wiring board with M5×35 self-tapping screws (as shown in the figure below). (unit:mm)



Figure 1 Shape and Dimension

4.2 Terminal wiring diagram

The electric energy meter should be wired according to the wiring diagram on the terminal box, preferably with copper wire or copper terminal.



Figure 2 Terminal wiring diagram

The current signal sampling line must use shielded twisted pair.

The wiring diagram of the external shunt is shown in the following figure:



Three-wire common positive connection



Three-wire common negative connection



Four-wire connection

Figure 3 Shunt wiring diagram

The wiring diagram of the external Hall current sensor is shown in the following figure:



Figure 4 Hall current sensor wiring diagram

Other terminal wiring diagrams are shown in the following figure:



Figure 5 Other terminal wiring diagram

Note: When the voltage and current signals are all positive or negative, the power will be expressed as positive, and the positive energy will be measured; when the voltage and current signals are positive and negative, the power will be expressed as negative, and the reverse energy will be measured.

The RS485 communication port of the meter requires a shielded twisted pair connection, and the layout of the entire network should be considered when wiring. Factors such as the length and direction of the communication cable, the location of the host computer, the matching resistance at the end of the network, the communication converter, the scalability of the network, the coverage of the network, and the electromagnetic interference of the environment must be comprehensively considered.

1. The wiring project should be constructed in strict accordance with the requirements;

2. For meters that do not need communication temporarily,connect them to the RS-485 network for easy diagnosis and testing;

3. When connecting the RS-485 cable, try to use two-color shielded twisted pair cables. The "A" terminal of the 485 communication port is connected to the same color, and the "B" terminal is connected to another color;

4. The length of the RS-485 bus (from the communication port of the host computer to the communication port of the meter terminal connected to the end) should not exceed 1200 meters.

4.3 Precautions

The electric meter should be installed in a place that is firm, fire-resistant and not easy to vibrate, and the installed electric meter should be vertical and not inclined. Do not install the meter without permission, and connect it correctly according to the wiring diagram, otherwise the meter may be burned out due to excessive voltage. The wiring type should pay attention to the ignition and burnout caused by poor contact and too thin incoming and outgoing wires. Pay attention to the meter range and do not exceed its range, otherwise the meter may be burned out due to excessive current load.

5. Display and operation

5.1 Display method

The electric energy meter adopts LCD to display information. The visible size of the LCD screen is 60mm (length) x 30mm (width), with black characters on a gray background.



Figure 6 LCD display interface

5.2 Display function

- ★ Using liquid crystal display, the display mode is divided into two types: automatic cycle display and button display.
- ★ The display has a backlight function, the backlight is white, and it can be triggered by a button to light up. If there is a misoperation, it will automatically turn off after two automatic cycle displays.
- ★ It can display information such as accumulated electricity,voltage,current,power,time and so on.

- ★ The power display is 8 digits, the factory default is 3 decimal places, the unit of measurement is kWh, and the power can be displayed as 99999.999kWh. The high bit is not displayed after it is exceeded. It will be cleared when the value exceeds 4294967.295kWh.
- \star LCD display information used, each graphic text description:

Serial number	LCD Graphics	Explanation		
1		Data display and corresponding unit symbols		
2		 1) D Prepresents the 1st and 2nd set of date segment tables 2) A Prepresents the 1st and 2nd year time zone table 3) 485 communication 		

Table 7 Display Graphical Description

5.3 Pulse indicator

Pulse indicator: red light, usually off, flashing when measuring electric energy

6. Communication

6.1 Communication Interface

The meter is equipped with an R485 communication interface and an infrared communication interface.

6.2 Data read and write

Through the 485 communication interface, parameter setting and reading data can be completed. Compatible with DL/T645-2007 protocol and Modbus-RTU protocol. The functions of each protocol are as follows:

DL/T698.45 protocol: The meter supports DLT698.45 protocol, and the meter number defaults to the last 12 digits of the barcode. The protocol supports the reading of voltage, current, power, forward and reverse and combined power, and the reading of multi-rate power.

DL/T645-2007 protocol: can read real-time electrical parameters (voltage,current,power),current active energy and tariff energy,settlement energy in December,and event record data. Tariff and display settings,meter reset function. Please refer to the corresponding agreement for details.

Modbus-RTU protocol: can read real-time electrical parameters (voltage,current,power),current active energy and tariff energy,can set tariff,and reset the meter. Please refer to the corresponding agreement for details.

6.3 Communication parameter setting

The communication address, baud rate, and check digit can only be set through the RS485 interface.

Communication address: The default communication address of DL/T645-2007 protocol is 00000000001

(12-bit BCD code), and the default address of Modbus-RTU protocol is 01.

Baud rate: 1200/2400/4800/9600 can be set, parity bit (can be set): odd/even/none.

Note: The default factory setting is 2400bps, even parity. If the inspection bit is otherwise required, please refer to the actual product.

6.4 Modbus communication address table

When using Modbus protocol for communication, the function code of the read data command is 03H, and the function code of the write data command is 10H. The specific register address table is as follows:

		Read and		
Address	Name	write	Defaults	Remark
		properties		
0000	Total active energy[1]	R		
0001	Total active energy[0]	R		
0002	Total active sharp energy[1]	R		
0003	Total active sharp energy[0]	R		
0004	Total active peak energy[1]	R		
0005	Totall active peak energy[0]	R		
0006	Total active flat energy [1]	R		
0007	Total active flat energy [0]	R		
0008	Total active valley energy [1]	R		
0009	Total active valley energy [0]	R		
000A	Total positive active energy [1]	R		
000B	Total positive active energy [0]	R		The energy data are all
000C	Total positive active sharp energy [1]	R		shaped, with 2 decimal places
000D	Total positive active sharp energy [0]	R		reserved.
000E	Total positive active peak energy [1]	R		
000F	Total positive active peak energy [0]	R		
0010	Total positive active flat energy [1]	R		
0011	Total positive active flat energy [0]	R		
0012	Total positive active valley energy [1]	R		
0013	Total positive active valley energy [0]	R		
0014	Total negative active energy [1]	R		
0015	Total negative active energy [0]	R		
0016	Total negative active sharp energy [1]	R		
0017	Total negative active sharp energy [0]	R		
0018	Total negative active peak energy [1]	R		

Table 8 Modbus communication address table

0019	Total negative active peak energy [0]	R		
001A	Total negative active flat energy [1]	R		
001B	Total negative active flat energy [0]	R		
001C	Total negative active valley energy [1]	R		
001D	Total negative active valley energy [0]	R		
001E	Voltage	R		Integer,1 decimal place
001F	Current	R		Integer,1 decimal place
0020	Active power[1]	R		grouped together to form a
0021	Active power[0]	R		signed number.
0022	Alarm bit	R		Bit0: high voltage alarm; Bit1: low voltage alarm; Bit2: high current alarm; Bit3: low current alarm;
0023				
0024				
0025				
0026	Minute second	R/W		High byte:minute; Low byte:second
0027	Day hour	R/W		
0028	Year month	R/W		
0029	Password	R/W		
002A	Communication address,communication baud rate	R/W	0x0101	Baud rate: 0-1200,1-2400,2-4800,3-9600
002B	Parity bit,stop bit	R/W	0x0200	Parity bit: 0-no parity,1-odd parity,2-even parity, stop bit: 0-1 stop bit,1-2 stop bit
002C	PT ratio	R/W	1	
002D	CT ratio	R/W	1	
002E	Pulse constant EC	R	100	
002F	LCD Backlight Setting	R/W	0	Default: Automatic
0030	Rated voltage	R/W	7500	1 decimal point
0031	Rated current	R/W	2000	1 decimal point
0032	Alarm enable bit setting	R/W	0	Bit0: high voltage alarm; Bit1: low voltage alarm; Bit2: high current alarm; Bit3: low current alarm;
0033	High Voltage Alarm Threshold	R/W	1200	Default: 120%

0034	High voltage alarm delay time	R/W	500	Default: 5s
0035	Low voltage alarm threshold	R/W	800	Default: 80%
0036	Low voltage alarm delay time	R/W	500	Default: 5s
0037	High Current Alarm Threshold	R/W	2000	Default: 200%
0038	High current alarm delay time	R/W	500	Default: 5s
0039	Low Current Alarm Threshold	R/W	500	Default: 5s
003A	Low current alarm delay time	R/W	500	Default: 5s
004C	Additional function	Bit0-Bit1: 0-3,the number of decimal places; Bit2: 0-Modbus,1-DLT645; (self-adaptive) Bit3: 0- no multi-rate,1- multi-rate;		
004D	Meter reading day	R/W		Day-hour
0055	The 1st time zone timetable number / the 1st time zone start date: day	R/W		Time zone table
0056	The 1st time zone start date: month / the 2nd time zone time slot table number	R/W		
0057	The 2nd time zone start date: day / the 2nd time zone start date: month	R/W		
0058	The 3rd time zone timetable number / the 3rd time zone start date: day	R/W		
0059	The 3rd time zone start date: month / the 4th time zone time slot table number	R/W		
005A	The 4th time zone start date: day / the 4th time zone start date: month	R/W		
005B	The 1st period tariff number / the 1st period start: minute	R/W		The first set of timetables
005C	The 1st start period: hour / the 2nd period tariff number	R/W		
005D	The 2 nd start period: minute / the 2 nd start period: hour	R/W		
005E	The 3 rd Period Tariff Number / the 3 rd Start Period : Minute	R/W		
005F	The 3 rd Start Period: hour / the 4 th	R/W		

	period tariff number			
0060	The 4 th start period: minute / the 4 th	D/W/		
0000	start period: hour	K/ W		
0061	The 5 th Period Tariff Number / the 5 th	R/W		
0001	Start Period : Minute			
0062	The 5 th Start Period: hour / the 6 th	R/W		
	period tariff number			
0063	The 6 th start period: minute / the 6 th	R/W		
	start period: hour			
0064	The 7 th Period Tariff Number / the 7 th	R/W		
	Start Period : Minute			
0065	The 7 th Start Period: hour / the 8 th	R/W		
	period tariff number			
0066	The 8 th start period: minute / the 8 th	R/W		
	start period: hour			
0067	The 9 th Period Tariff Number / the 9 th	R/W		
	Start Period : Minute			
0068	The 9 th Start Period: hour / the 10 th	R/W		
	period tariff number			
0069	the 10 th start period: minute / the 10 th	R/W		
	The 11th Derived Terriff Number / the			
006A	11th Start Period · Minute	R/W		
	The 11 th Start Period: hour / the 12 th			
006B	period tariff number	R/W		
	The 12 th start period: minute / the 12 th			
006C	start period: hour	R/W		
	The 13 th Period Tariff Number / the			
006D	13th Start Period : Minute	R/W		
	The 13th Start Period: hour / the 14th			
006E	period tariff number	R/W		
0.0 ()	The 14 th start period: minute / the 14 th	D (111		
006F	start period: hour	R/W		
0070	The 1st period tariff number / the 1st	D/IW		
	period start: minute	R/W		
0071	The 1st start period: hour / the 2nd	D /W/		
0071	period tariff number	R/W		

0072	The 2 nd start period: minute / the 2 nd start period: hour	R/W	
0073	The 3 rd Period Tariff Number / the 3 rd Start Period : Minute	R/W	
0074	The 3 rd Start Period: hour / the 4 th period tariff number	R/W	
0075	The 4 th start period: minute / the 4 th start period: hour	R/W	
0076	The 5 th Period Tariff Number / the 5 th Start Period : Minute	R/W	
0077	The 5 th Start Period: hour / the 6 th period tariff number	R/W	
0078	The 6 th start period: minute / the 6 th start period: hour	R/W	
0079	The 7 th Period Tariff Number / the 7 th Start Period : Minute	R/W	
007A	The 7 th Start Period: hour / the 8 th period tariff number	R/W	
007B	The 8 th start period: minute / the 8 th start period: hour	R/W	
007C	The 9 th Period Tariff Number / the 9 th Start Period : Minute	R/W	
007D	The 9 th Start Period: hour / the 10 th period tariff number	R/W	
007E	The 10 th start period: minute / the 10 th start period: hour	R/W	
007F	The 11 th Period Tariff Number / the 11 th Start Period : Minute	R/W	
0080	The 11 th Start Period: hour / the 12 th period tariff number	R/W	
0081	The 12 th start period: minute / the 12 th start period: hour	R/W	
0082	The 13 th Period Tariff Number / the 13 th Start Period : Minute	R/W	
0083	The 13 th Start Period: hour / the 14 th period tariff number	R/W	
0084	The 14 th start period: minute / the 14 th	R/W	

	start period: hour		
0087	Table number [0]	R/W	
0088	Table number [1]	R/W	
0089	Table number [2]	R/W	
008A	Table number [3]	R/W	
008B	Table number [4]	R/W	
008C	Table number [5]	R/W	

6.5 DL/T645-2007 Statute Data Identification

For the specific message frame format and communication requirements of the DL/T645-2007 power regulation, please refer to the relevant documents. The specific data fields supported by the meter are as follows: Table 9 DL/T645-2007 power regulation data fields

D	ata ider	ntificati	on	Data		
				length	Data item name	Remark
DI3	DI2	DII	DI0	(byte)		
00	00	00	00	4	Combined total active energy	
00	00	01	00	4	Combined total active sharp energy	
00	00	02	00	4	Combined total active peak energy	
00	00	03	00	4	Combined total active flat energy	The current electric energy
00	00	04	00	4	Combined total active valley energy	data, the data format is
00	00	FF	00	20	Combined active power block	compressed BCD code, the unit
00	01	00	00	4	Positive total active energy	is kWh,2 decimal places,the
00	01	01	00	4	Positive total active sharp energy	maximum electric energy that
00	01	02	00	4	Positive total active peak energy	can be transmitted is
00	01	03	00	4	Positive total active flat energy	999999.99kWh,and it will start
00	01	04	00	4	Positive total active valley energy	to recover from 0 after
00	01	FF	00	20	Positive active power block	exceeding it, and the stored
00	02	00	00	4	Negative total active energy	electric energy will be cleared to
00	02	01	00	4	Negative total active sharp energy	0 after the fourth measurement
00	02	02	00	4	Negative total active peak energy	from 0 to 294967.29.
00	02	03	00	4	Negative total active flat energy	
00	02	04	00	4	Negative total active valley energy	
00	02	FF	00	20	Negative active power block	
00	00	00	01	Л	Combined total active energy in the	
00	00	00	01		previous month	
00	00	01	01	Δ	Combined total active sharp energy in	Electricity data for last January
					the previous month	
00	00	02	01	4	Combined total active peak energy in	

					the previous month	
0.0	00	02	01	4	Combined total active flat energy in	
00	00	03	01	4	the previous month	
			0.1		Combined total active valley energy	
00	00	04	01	4	in the previous month	
		- DD	0.1	20	Combined active power block in the	
00	00	FF	01	20	previous month	
	0.1		0.1		Positive total active energy in the	
00	01	00	01	4	previous month	
	0.1	0.1	0.1	4	Positive total active sharp energy in	
00	01	01	01	4	the previous month	
0.0	01	02	01	4	Positive total active peak energy in	
00	01	02	01	4	the previous month	
0.0	01	02	01	4	Positive total active flat energy in the	
00	01	03	01	4	previous month	
00	01	04	01	4	Positive total active valley energy in	
00	01	04	01	4	the previous month	
00	01	EE	01	20	Positive active power block in the	
00	01	I.L.	01	20	previous month	
00	02	00	01	1	Negative total active energy in the	
00	02	00	01	4	previous month	
00	02	01	01	1	Negative total active sharp energy in	
00	02	01	01		the previous month	
00	02	02	01	1	Negative total active peak energy in	
00	02	02	01		the previous month	
00	02	03	01	1	Negative total active flat energy in	
00	02	05	01		the previous month	
00	02	04	01	4	Negative total active valley energy in	
00	02	04	01		the previous month	
00	02	FF	01	20	Negative active power block in the	
	02			20	previous month	
Refer to the above format						Electricity data for last February
Refer to the above format						Electricity data for last March
Refer to the above format						Electricity data for last April
				Refer to the	above format	Electricity data for last May
				Refer to the	above format	Electricity data for last June
02	01	01	00	2	A-phase voltage	

02	01	FF	00	6	Voltage block	
02	02	01	00	3	A-phase current	
02	02	FF	00	9	Current block	
02	03	00	00	3	Active power	
02	03	01	00	3	A-phase active power	
02	03	FF	00		Active power block	
02	06	00	00		Total power factor	
02	06	01	00		A-phase power factor	
02	80	00	02		Grid frequency	
04	00	04	01	6	Communication address	
04	00	04	02	6	Table number	
04	00	01	01	4	Date	
04	00	01	02	3	Time	

Da	ata ider	ntificati	on	Data		
		DI1	DIO	length	Data item name	Remark
DIS		DII	DIO	(byte)		
00	D0	00	00	4	Combined total active energy	
00	D0	01	00	4	Combined total active sharp energy	
00	D0	02	00	4	Combined total active peak energy	
00	D0	03	00	4	Combined total active flat energy	
00	D0	04	00	4	Combined total active valley energy	
00	D0	FF	00	20	Combined Active Energy Data Block	
00	D1	00	00	4	Positive total active energy	Current power data,data format
00	D1	01	00	4	Positive total active sharp energy	is hexadecimal,unit kWh,3
00	D1	02	00	4	Positive total active peak energy	decimals, the maximum power
00	D1	03	00	4	Positive total active flat energy	that can be transmitted is
00	D1	04	00	4	Positive total active valley energy	4294967.295kWh,and it will be
00	D1	FF	00	20	Positive Active Energy Data Block	cleared to 0 if it exceeds.
00	D2	00	00	4	Negative total active energy	
00	D2	01	00	4	Negative total active sharp energy	
00	D2	02	00	4	Negative total active peak energy	
00	D2	03	00	4	Negative total active flat energy	
00	D2	04	00	4	Negative total active valley energy	
00	D2	FF	00	20	Negative Active Energy Data Block	

6.6 DL/T698.45 protocol

The DJSF1352 meter supports the following object identifiers.

Object ID	Interface	Object name	Instance object properties and method definitions
OI	IC		
0000	1	Combined active	Electric energy ::=double-long; unit:
		energy	kWh,conversion: -2
0010	1	Positive active	Electric energy ::=double-long-unsigned; unit:
		energy	kWh,conversion: -2
0020	1	Negative active	Electric energy ::=double-long-unsigned; unit:
		energy	kWh,conversion: -2
2000	3	Voltage	Data type: long-unsigned,unit: V,conversion: -1
2001	3	Current	Data type: double-long,unit: A conversion: -3
2004	4	Active power	Data type: double-long,unit: W,conversion: -1

7. Precautions for storage and transportation

①When transporting the electric energy meter, it is forbidden to subject the electric energy meter to severe impact.

⁽²⁾This product is an electronic device, so try to avoid the impact and bumping of heavy objects when handling.

③The ambient temperature of the storage location should be -40°C \sim +70°C, and the relative humidity should not exceed 75%.

(4) The meter should be stored in the warehouse in the original packaging, and the stacking height should not exceed 5 boxes. If the appearance of the unpacked electric meter is found to be damaged, please do not install or power on the electric meter; the stacking height of a single meter should not exceed 5 blocks, and the unpacked electric meter should not be stored.

Headquarters: Acrel Co., LTD. Address: No.253 Yulv Road Jiading District, Shanghai, China TEL.: 0086-21-69158338 0086-21-69156052 0086-21-59156392 0086-21-69156971 Fax: 0086-21-69158303 Web-site: www.acrel-electric.com E-mail: ACREL008@vip.163.com Postcode: 201801

Manufacturer: Jiangsu Acrel Electrical Manufacturing Co., LTD. Address: No.5 Dongmeng Road,Dongmeng industrial Park, Nanzha Street,Jiangyin City,Jiangsu Province,China TEL: 0086-510-86179966 Fax: 0086-510-86179975 Web-site: www.jsacrel.com Postcode: 214405 E-mail: sales@email.acrel.cn