

Three Phase Meter 80A Direct Connection

· User Manual for D519032/D519033/D519024



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1. Introduction

This meter is a three phase four wire with RS485 din rail electronic meter. This meter complies with the standards of EN50470-1/3. It can measure the consumption of active/reactive energy. This meter has many advantages, such as good reliability, small volume, light weight and easy installation.

The meter is intended to be installed in a Mechanical Environment 'M1', with Shock and Vibrations of low significance, as per 2014/32/EU Directive.

The meter is intended to be installed in Electromagnetic Environment 'E2', as per 2014/32/EU Directive.

2. Features and Technical Parameters

2.1 Features

2.1.1 Measurement function

- It has three phase active/reactive energy and positive and negative measurement, four tariff(optional).
- It can be setted 3 measurement modes according to the synthesis code.
- Maximum demand calculation.
- Holiday Tariff and Weekend Tariff Setting(optional).

2.1.2 Communication

●It supports IR(near infrared) and RS485 communication(optional). IR complies with EN62056(IEC1107) protocol, and RS485 communication use the MODBUS protocol.

- **DTS353F-1:** IR communication only
- **DTS353F-2:** IR communication, RS485 MODBUS
- **DTS353F-3:** IR communication, RS485 MODBUS, Multi-tariff function

2.1.3 Display

●It can display the total energy, tariff energy, three phase voltage, three phase current, total/three phase power, total/three phase apparent power, total/three phase power factor, frequency, pulse output, communication address, and so on(details please see the display instruction).

2.1.4 Button

- The meter has two buttons, it can be displayed all the contents by pressing the buttons. Meanwhile, by pressing the buttons, the meter can be set LCD scroll display time.
- It can be set the automatic display contents through IR.

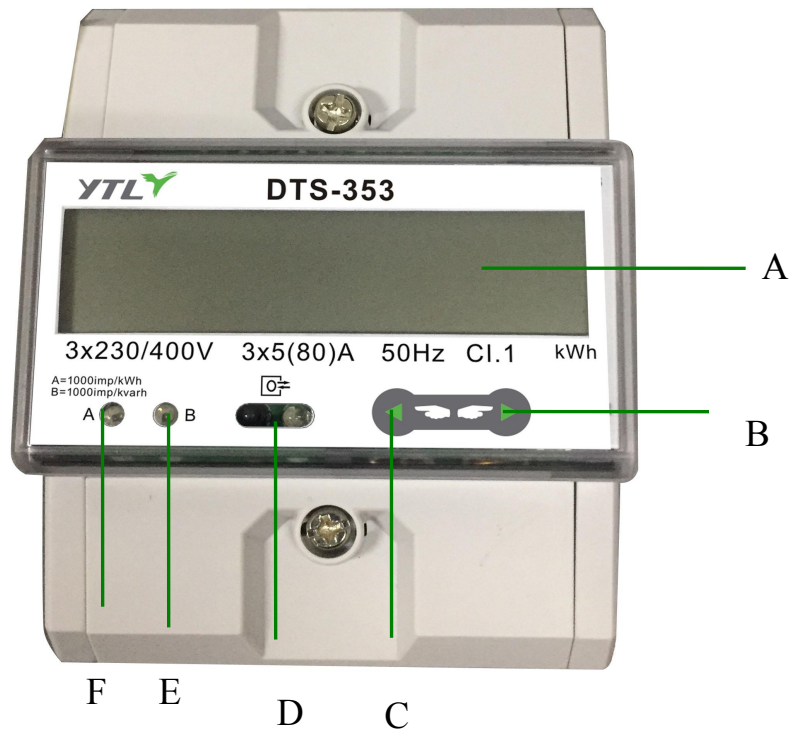
2.1.5 Pulse output

- Set 1000/100/10/1, total four pulse output modes by communication.

2.2 Technical Parameters

Voltage:	3*230/400V
Current:	0,25-5(30)A, 0,25-5(32)A, 0,25-5(40)A, 0,25-5(45)A, 0,25-5(50)A, 0,25-5(80)A
Accuracy class:	B
Standard:	EN50470-1/3
Frequency:	50Hz
Impulse constant:	1000imp/kWh, 1000imp/kVarh
Display:	LCD 6+2
Starting current:	0.004Ib
Temperature range:	-20~70°C (Non Condensing)
Average humidity value of year:	85%

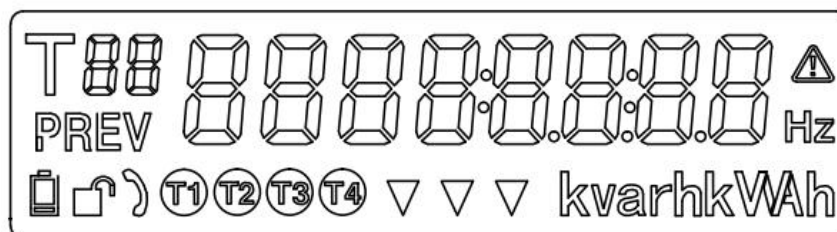
3. Description



- A: LCD display
- B: Forward page button
- C: Reverse page button
- D: Near infrared communication
- E: Reactive pulse LED
- F: Active pulse LED

4. Display

4.1 LCD display content



4.2 Parameters show on the LCD screen

Some description to the signs

T1 T2 T3 T4 : Present tariff indication

T88 : content indicate, it can be shown T1 /T2/T3/T4, L1/ L2/L3

Hz : frequency display

kvarhkVAh : kWh unit display, it can show kW, kWh, kvarh, V, A and kVA

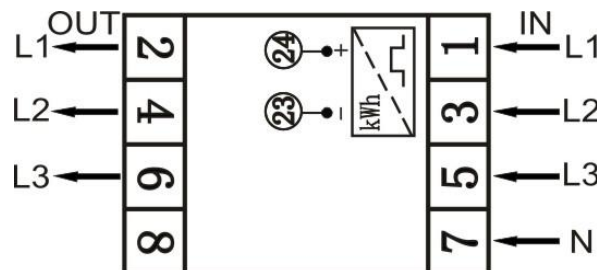
Press the page button, and it will shift to another main page.

LCD Display Content				
Page	Content	Unit	LCD sign	Format
1	DATE			XX-XX-XX
2	TIME			XX:XX:XX
3	Total Active Energy	kWh		6+2 000000.00
4	T1 Active Energy	kWh	T01	6+2 000000.00
5	T2 Active Energy	kWh	T02	6+2 000000.00
6	T3 Active Energy	kWh	T03	6+2 000000.00
7	T4 Active Energy	kWh	T04	6+2 000000.00
8	Total Reactive Energy	kVarh		6+2 000000.00
9	T1 Total Reactive Energy	kVarh	T11	6+2 000000.00
10	T2 Total Reactive Energy	kVarh	T12	6+2 000000.00
11	T3 Total Reactive Energy	kVarh	T13	6+2 000000.00
12	T4 Total Reactive Energy	kVarh	T14	6+2 000000.00
13	L1 voltage	V	L1	3+1 000.0
14	L2 voltage	V	L2	3+1 000.0
15	L3 voltage	V	L3	3+1 000.0
16	L1 current	A	L1	4+2 0000.00
17	L2 current	A	L2	4+2 0000.00
18	L3 current	A	L3	4+2 0000.00
19	Total active power	kW		5+3 00000.000
20	L1 active power	kW	L1	5+3 00000.000
21	L2 active power	kW	L2	5+3 00000.000
22	L3 active power	kW	L3	5+3 00000.000
23	Total Apparent Power	kVA		5+3 00000.000
24	L1 Apparent Power	kVA	L1	5+3 00000.000
25	L2 Apparent Power	kVA	L2	5+3 00000.000
26	L3 Apparent Power	kVA	L3	5+3 00000.000
27	Total COS			1+2 0.00
28	L1COS		L1	1+2 0.00

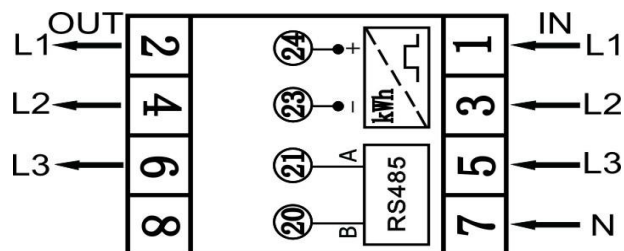
29	L2COS		L2	1+2 0.00
30	L3COS		L3	1+2 0.00
31	Frequency	Hz		2+2 00.00
32	T1 Demand	kW	T-1	6+2 000000.00
33	T2 Demand	kW	T-2	6+2 000000.00
34	T3 Demand	kW	T-3	6+2 000000.00
35	T4 Demand	kW	T-4	6+2 000000.00
36	Resettable Active Energy	kWh	Start measurement after function open, which can be reset.	000000.00
37	Combinatorial active status word			S 11 111
38	Cycle time		1-30s	Lcd-t 05
39	Impulse Output			S0 1000
40	Measuring Mode			COdE 01
41	IR address/meter serial number		IR address	12345678
42	MODBUS ID		Address is 0x10 shows 016	Id 255
43	MODBUS Baudrate		485 Baudrate	bd 9600
44	Software Version			V 1.01

5. Connection Diagram

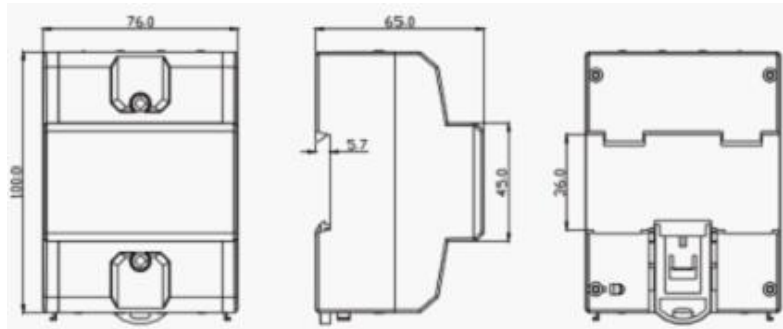
DTS353F-1:



DTS353F-2/3:



6. Meter Dimensions



Height 100mm
Width 76mm
Depth 65mm

7. Installation Instruction

7.1 Installation instructions

Installation staff should be experienced electrician or specialized person, and should ensure that they have read this user guide.

During installation, if it comes across severe strike or falling, which causes obvious damage trace, don't install it or turn it on. Please contact us in time.

Before leaving our factory, all the meters have been checked out and lead sealed, they can be installed directly.

Meters should be installed indoors or outdoors cabinet. The wall which is installed should be firm and fireproof, besides, no corrosive gas in the air.

Meters should be installed according to the wiring diagram on terminal box. When inserting, using copper wire or copper connector will be better.

7.2 Installation instruction details

- * Choose 35mm standard Din-Rail (the length is confirmed by yourself), fixed them in the location which are waiting for installation;
- * Push down the clip under the bottom of the meter for a gear, see fig. 1 and fig.2;

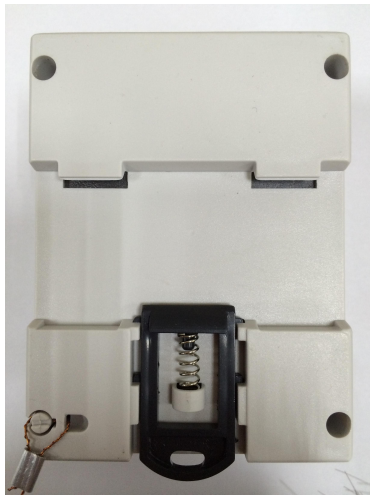


Fig.1



After push down the clip



Fig.2

- * Put the meter into the Din-rail as per Fig. 3, then push up the clip for a gear, install meter to the Din-rail, see Fig. 4;

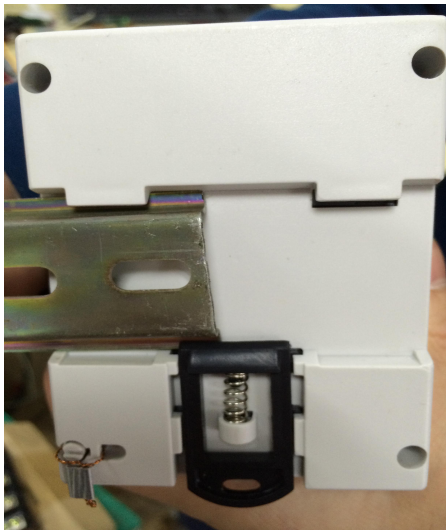


Fig. 3

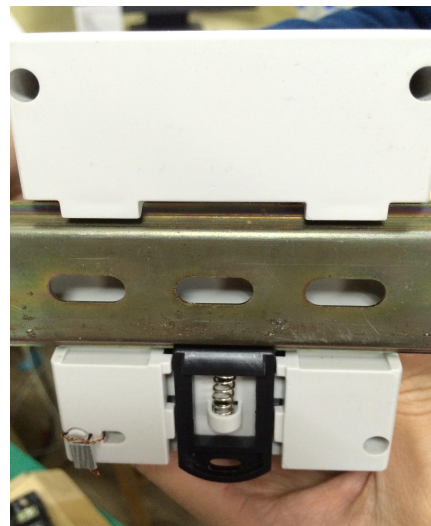


Fig. 4

- * Making the connection according to the wiring diagram;
- * After connection, use lead sealing to seal terminal cover.

Recommended wire (For your reference):

Safe carrying capacity of rubber or plastic insulated wire(1)

specification (mm)	nominal cross section (mm ²)	Safe carrying capacity (A)			
		BX	BLX	BV	BLV
1*1.13	1	20		18	
1*1.37	1.5	25		22	
1*1.76	2.5	33	25	30	23
1*2.24	4	42	33	40	30
1*2.73	6	55	42	50	40
7*1.33	10	80	55	75	55
7*1.76	16	105	80	100	75
7*2.12	25	140	105	130	100
7*2.50	35	170	140	160	125
19*1.83	50	225	170	205	150
19*2.14	75	280	225	255	185
19*2.50	95	340	280	320	240

Note: BX(BLX) copper (aluminum) core rubber insulated wire or BV(BLV) copper (aluminum) core PVC plastic insulated wire, widely used in 500V or less than 500V AC and DC power distribution system. The temperature for the data listed in the above table is 35℃、the safe carrying capacity value for the wire on single coved.

8. Safety Instructions

Information for Your Own Safety

This manual does not contain all of the safety measures for operation of this equipment (module, device) because special operating conditions, local code requirements or local regulations may necessitate further measures. However, it does contain information which must be adhered to for

your own personal safety and to avoid damage to the equipment. This information is highlighted by a warning triangle with an exclamation mark or a lightning bolt depending on the severity of the warning.



Warning

Means that failure to observe the instruction can result in death, serious injury or considerable material damage.



Caution

Means hazard of electric shock and failure to take the necessary safety precautions will result in death, serious injury or considerable material damage.

Qualified personnel

Installation and operation of this equipment described in this manual may only be performed by qualified personal.

Only people that are authorized to install, connect and use this equipment and have the proper knowledge about labeling and grounding electrical equipment and circuits and can do so according to safety and regulatory standards are considered qualified personnel in the manual.

Use for the intend purpose

The equipment (device, module) may only be used for the application cases specified in the catalog and the user manual and only in connection with devices and components recommended and approved by YTL.

Exclusion of liability

We have checked the contents of this publication and every effort has been made to ensure that the descriptions are as accurate as possible. However, deviations from the description cannot be completely ruled out, so that no liability can be accepted for any errors or omissions in the information given. The data in this manual is checked regularly and the necessary corrections will be included in subsequent editions. If you have any suggestions, pls let us know.

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General Warning

After removing the packaging make sure the integrity of the unit. If in doubt don't use the equipment and contact technical staff.

Mounting of electric appliances must be carried out only by skilled electricians. It is imperative to observe the generally applicable safety measures.

In case of failure and /or malfunctioning of the device, turn off it. For any repair only contact technical staff. Failure to comply with the above may compromise the device safety.

Warranty

The manufactory will repair or exchange the products while the lead seal is still exited, within 18 months, when discovering the products not accordance with the technical specification.