DTSD8080 Series Din Rail Mounting 3 Phase Energy Meter User Manual

Feature:

⊙ The display of true virtual value measurement, electric parameter/ energy information can be switched by panel key.

⊙ Optional multi-rate function.

⊙ Active power pulse output.

⊙ RS485 port, MODBUS-RTU or DL/T 645 procotol.

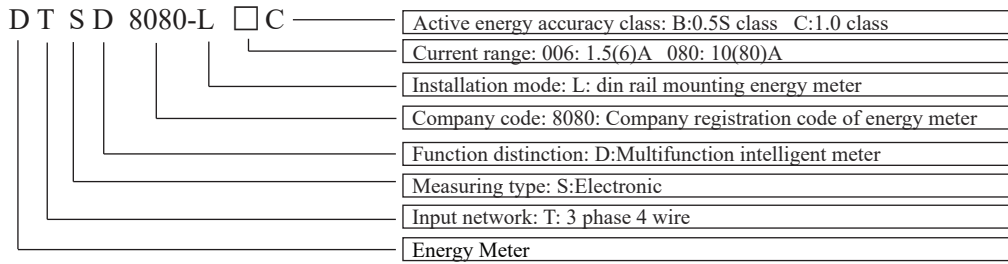⊙ Conform to DL/T 614 and GB/T 17215 relevant technical requirement of electronic energy meter.

■ Technical specification

Item	Specification
Accuracy class (active/reactive)	0.5S/2.0 or 1.0/2.0
Rated voltage	3x220V/380V(3P4W)
Current range	1.5（6）A, 10（80）A, other range needs to be ordered.
Network	3 phase 4 wire
Reference frequency	50Hz or 60Hz
Working voltage	Normal voltage: 0.9Un-1.1Un Limit voltage: 0.7Un-1.2Un
Starting current	0.004Ib
Power consumption	Voltage circuit: <5VA/phase Current circuit: <4VA/phase
Energy pulse output	Active energy pulse. Optoelectronic isolation, open collector output. Pulse length = 80ms±20ms
Digital communication	RS485：MODBUS-RTU protocol or DL/T645-1997, DL/T645-2007
Clock error	≤0.5s/d
EMC	Conform to GB/T 17215 relevant requirement.
Temperature range	Normal working temperature: -10～+45℃ Limit working temperature: -20～+55℃ Storage temperature: -40～+70℃
Relative humidity	≤95%RH（No condensation）
Dimension(mm)	126L×88W×65H

■ Function

Item	Function
Metering	Positive active power and reverse active energy are accumulated respectively.
	The energy is respectively accumulated and stored by total, T1, T2, T3, T4.
	After power off, the data can be stored for more than ten years.
Clock & period rate	Internal hardware clock,with calendar,timing,leap year automatic switching function.The clock error is within 0.5s/day.
	Programmable setting of T1,T2,T3, T4, total 4 kinds of rate, 14 period per day, time interval 15 minutes.
Display	Black-and-white dot matrix LCD, white backlight.
	Red LED as indicator of active energy pulse output.
Energy pulse output	1 loop active energy impulse output. It's used for calibration or external energy acquisition.
Digital communication	Used for meter setting, remote reading, data acquisition, etc.
	Communication port：RS485
	Communication protocol: MODBUS-RTU or DL/T645-1997、DL/T645-2007
	Baud rate: 1200bps、2400bps、4800bps、9600bps
Meter program	Time and date setting
	Communication address setting
	Rate period setting
	Energy clearing setting
	Meter programming setting can be done by PC software.

■ Model illustration

D T S D 8080-L □ C

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Active energy accuracy class: B:0.5S class C:1.0 class
Current range: 006: 1.5(6)A   080: 10(80)A
Installation mode: L: din rail mounting energy meter
Company code: 8080: Company registration code of energy meter
Function distinction: D:Multifunction intelligent meter
Measuring type: S:Electronic
Input network: T: 3 phase 4 wire
Energy Meter

■ Ordering information

phase current total harmonic ratio

Model	Accuracy class	Rated voltage	Current range	Input type	Multi-rate	Communication	Pulse constant
DTSD8080-L006B	Active 0.5S		1.5(6)A	Input by CT			6400 imp/kWh
DTSD8080-L080B	Active 0.5S	3x220V/380V	10(80)A	Direct input	Yes	MODBUS-RTU DL/T645-1997 DL/T645-2007	800 imp/kWh
DTSD8080-L006C	Active 1.0		1.5(6)A	Input by CT			6400 imp/kWh
DTSD8080-L080C	Active 1.0		10(80)A	Direct input			800 imp/kWh

■ Panel

Address: 001
Baud: 9600 N
Date: 14-11-01
Time: 20: 30: 00
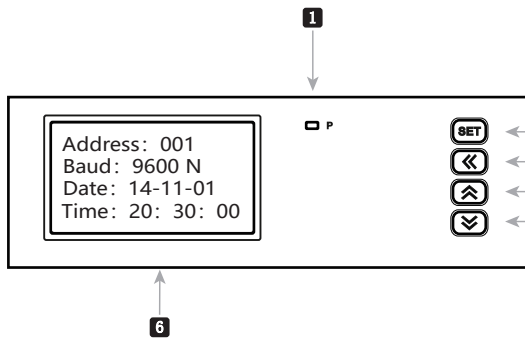
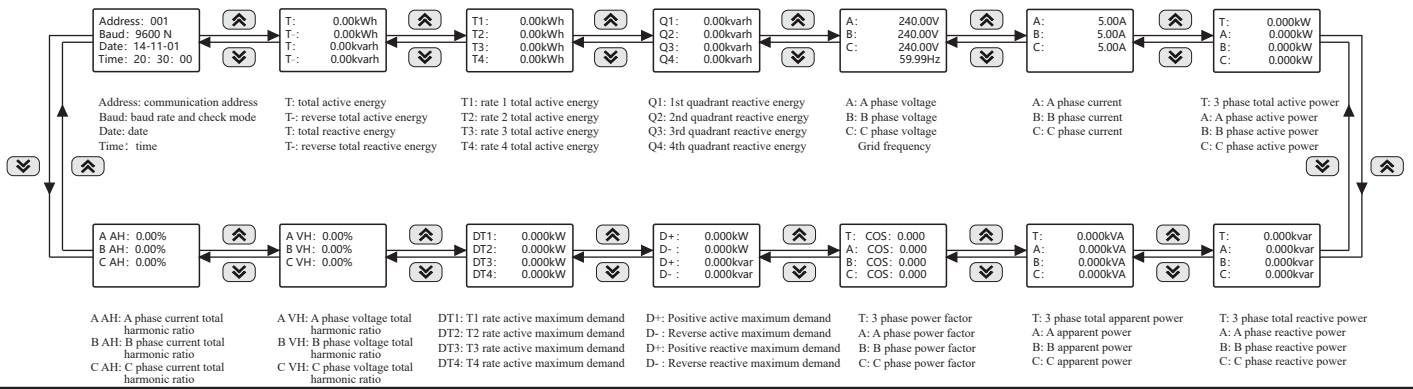| No.	Symbol	Name	Function
1	P	Pulse output indicator	The light turns on when there is pulse output
2	SET	Menu key	Enter/menu setting
3	《	Shift key	Shift
4	《	Increase key	Increase/ switch display
5	《	Decrease key	Decrease/ switch display
6		LCD display	Display measurement and menu setting data

■ Connection
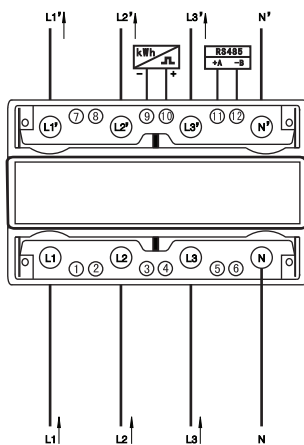
3 phase 4 wire direct input
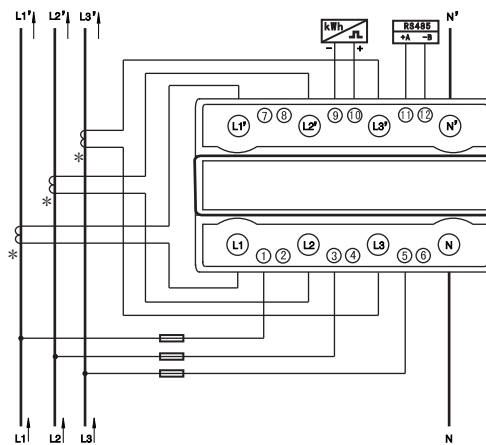
3 phase 4 wire input by CT

■ Measurement display

1、 Under measuring state, below measured parameter will be displayed in cycle (display interval about 5s), user can also switch the display by pressing "⌄" or "⌃".
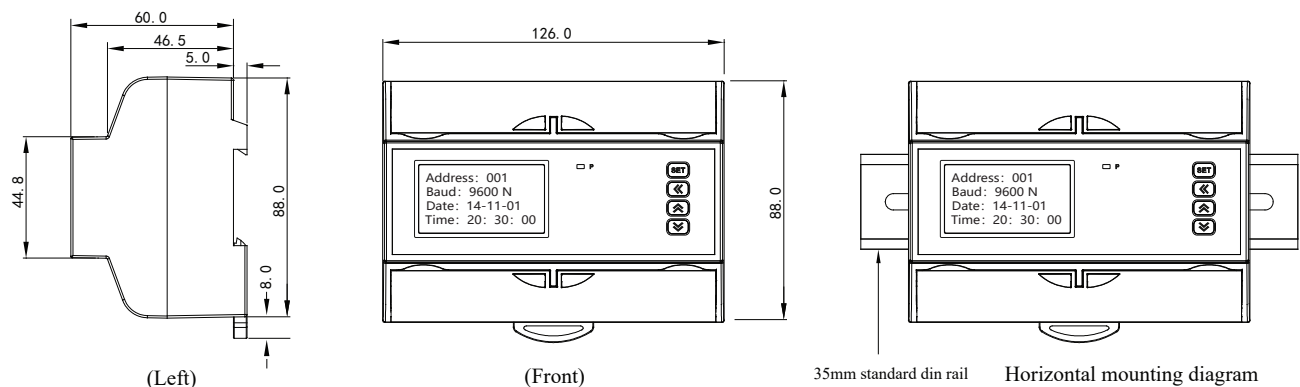

Address: 001 Baud: 9600 N Date: 14-11-01 Time: 20: 30: 00	T: 0.00kWh T: 0.00kWh T: 0.00kvarh T-: 0.00kvarh	T1: 0.00kWh T2: 0.00kWh T3: 0.00kWh T4: 0.00kWh	Q1: 0.00kvarh Q2: 0.00kvarh Q3: 0.00kvarh Q4: 0.00kvarh

Address: communication address
Baud: baud rate and check mode
Date: date
Time: time

T: total active energy
T: reverse total active energy
T: total reactive energy
T-: reverse total reactive energy

T1: rate 1 total active energy
T2: rate 2 total active energy
T3: rate 3 total active energy
T4: rate 4 total active energy

Q1: 1st quadrant reactive energy
Q2: 2nd quadrant reactive energy
Q3: 3rd quadrant reactive energy
Q4: 4th quadrant reactive energy

A: 240.00V / B: 240.00V / C: 240.00V / 59.99Hz
A: A phase voltage
B: B phase voltage
C: C phase voltage
Grid frequency

A: 5.00A / B: 5.00A / C: 5.00A
A: A phase current
B: B phase current
C: C phase current

T: 0.000kW / A: 0.000kW / B: 0.000kW / C: 0.000kW
T: 3 phase total active power
A: A phase active power
B: B phase active power
C: C phase active power

A AH: 0.00% / B AH: 0.00% / C AH: 0.00%
A AH: A phase current total harmonic ratio
B AH: B phase current total harmonic ratio
C AH: C phase current total harmonic ratio

A VH: 0.00% / B VH: 0.00% / C VH: 0.00%
A VH: A phase voltage total harmonic ratio
B VH: B phase voltage total harmonic ratio
C VH: C phase voltage total harmonic ratio

DT1: 0.000kW / DT2: 0.000kW / DT3: 0.000kW / DT4: 0.000kW
DT1: T1 rate active maximum demand
DT2: T2 rate active maximum demand
DT3: T3 rate active maximum demand
DT4: T4 rate active maximum demand

D+: 0.000kW / D-: 0.000kW / D+: 0.000kvar / D-: 0.000kvar
D+: Positive active maximum demand
D-: Reverse active maximum demand
D+: Positive reactive maximum demand
D-: Reverse reactive maximum demand

T: COS: 0.000 / A: COS: 0.000 / B: COS: 0.000 / C: COS: 0.000
T: 3 phase power factor
A: A phase power factor
B: B phase power factor
C: C phase power factor

T: 0.000kVA / A: 0.000kVA / B: 0.000kVA / C: 0.000kVA
T: 3 phase total apparent power
A: A apparent power
B: B apparent power
C: C apparent power

T: 0.000kvar / A: 0.000kvar / B: 0.000kvar / C: 0.000kvar
T: 3 phase total reactive power
A: A phase reactive power
B: B phase reactive power
C: C phase reactive power

■ Menu

1. Under measuring state, keep pressing "SET" more than 5S to enter setting menu.
2. After the entrance of setting menu, press "≪" key to shift, "⌃" "⌄" key to modify, "SET" key to confirm and enter next menu.
3. After the menu modification, press "SET" key to exit the menu, or keep pressing "SET" key to exit directly.

No.	Menu	Default parameter	Setting range	Description
1	Password	0000	0 - 9999	Menu password, only when the correct password is entered, the setting menu can be accessed (default 9180)
2	ADDR	001	1 - 255	Communication address setting
3	BAUD	09600 N	600 N - 19200 E	Communication baud rate and check mode (N: no check 0: odd parity check E: even parity check)
4	PT	000001	1 - 999999	Voltage ratio
5	CT	000001	1 - 999999	Current ratio
6	DEM TIME	15	1 - 15	Demand cycle (unit: M)
7	BL TIME	00	0 - 60	Backlight going-out delay time (unit: minute), setting as 0 means backlight is normally on.
8	DEMAND CLEAR	NO	NO or YES	Whether demand statistics data needs to be cleared.
9	ENERGY CLEAR	NO	NO or YES	Whether energy data needs to be cleared.
10	01-h:00 m:00 T:0	h:00 m:00 T:0 h: start hour of current period m: start minute of current period T: rate of current period	h:00 - 23(hour) m:00 - 59(minute) T:0 - 4(rate) Remark: T = 0, current period is invalid	Multi-rate period 1 parameter setting
11	02-h:00 m:00 T:0			Multi-rate period 2 parameter setting
⋮	⋮			⋮
23	14-h:00 m:00 T:0			Multi-rate period 14 parameter setting

■ Dimension

60.0
46.5
5.0
44.8
88.0
8.0
(Left)

126.0
88.0
Address: 001
Baud: 9600 N
Date: 14-11-01
Time: 20: 30: 00
(Front)

35mm standard din rail
Address: 001
Baud: 9600 N
Date: 14-11-01
Time: 20: 30: 00
Horizontal mounting diagram

■ Communication protocol

1. Please refer to "3 phase intelligent energy meter MODBUS-RTU communication protocol".