

# DTSU666 3-Phase + mbpoll Command Reference

---

## ? Standard Communication Settings (DTSU666)

Most DTSU666 meters use:

Protocol : Modbus RTU

Baud Rate : 9600

Data Bits : 8

Parity : None

Stop Bits : 2

Mode : Big-endian

Table : Input Registers (FC04)

Base communication block used in all commands:

```
-m rtu -b 9600 -P none -s 2
```

---

## ? Critical Flags (Important)

Flag	Meaning	Required?
<code>-t 3</code>	Input Registers (Function 04)	<input type="checkbox"/> Yes
<code>:float</code>	32-bit floating point	<input type="checkbox"/> Yes
<code>-B</code>	Big-endian word order	<input type="checkbox"/> Yes
<code>-0</code>	Zero-based addressing	<input type="checkbox"/> Yes

Flag	Meaning	Required?
-a <id>	Slave address	<input type="checkbox"/> Yes
-1	Poll once	Optional
-l 5000	Poll every 5 seconds	Optional

---

## ? Phase?to?Neutral Voltages (L1?N, L2?N, L3?N)

Register: `0x2006`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2006 -c 3 \  
/dev/ttyUSB0 -a 1 -1
```

---

## ? Line?to?Line Voltages (L1?L2, L2?L3, L3?L1)

Register: `0x2000`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2000 -c 3 \  
/dev/ttyUSB0 -a 1 -1
```

---

## ? Phase Currents (L1, L2, L3)

Register: `0x200C`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x200C -c 3 \  
/dev/ttyUSB0 -a 1 -1
```

---

## ? Total Active Power (kW)

Register: `0x2012`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2012 -c 1 \  
/dev/ttyUSB0 -a 1 -1
```

---

## ? Frequency (Hz)

Register: `0x2044`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2044 -c 1 \  
/dev/ttyUSB0 -a 1 -1
```

---

## ? Total Active Energy (kWh)

Register: `0x4000`

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x4000 -c 1 \  
/dev/ttyUSB0 -a 1 -1
```

---

# ? Continuous Polling Example (Every 5 Seconds)

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2006 -c 1 \  
-l 5000 \  
/dev/ttyUSB0 -a 1
```

---

# ? Change Slave Address (Only One Meter Connected)

△ Use Holding Registers (Function 03) for configuration.

Register:

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 4:int16 -0 \  
-r 0x002E \  
/dev/ttyUSB0 -a 1 -W -- 5
```

Changes slave ID from 1 → 5.

---

# ? Quick Communication Test

Fastest health check:

```
mbpoll -m rtu -b 9600 -P none -s 2 \  
-t 3:float -B -0 \  
-r 0x2006 -c 1 \  
/dev/ttyUSB0 -a 1 -l
```

If you see ~230V → communication confirmed.

---

# ? Troubleshooting Quick Guide

Symptom	Likely Cause
Timeout	Wrong address or wiring
4200+ volts	Reading wrong register
-8192 values	Wrong data type
Nonsense numbers	Missing <code>-B</code>
No <code>/dev/ttyUSB0</code>	USB-RS485 not detected

---

Revision #3

Created 2026-02-26 16:26:18 UTC by aaron.tushabe

Updated 2026-03-28 11:19:01 UTC by hillary.arinda