

QUESTIONS EVERY CONTRACTOR, DISTRIBUTOR & SALESPERSON SHOULD ASK BEFORE REQUESTING A SUBMETER QUOTE

One of the most common delays in submeter quoting is incomplete application information. Answering the following questions up front will allow us to quickly identify the correct meter, CTs, enclosure type, and communication options for the project.

1 WHAT IS THE SERVICE VOLTAGE?

This is the most important question when selecting a submeter.

Examples include:

- 120V
- 120/208V
- 120/240V
- 277/480V
- 347/600V



NOTE

DENT smart meters support service voltages from **90V through 600V** without requiring PTs in most standard commercial applications.

2 IS THE SERVICE SINGLE-PHASE OR THREE-PHASE?

This question determines both the meter type and the number of CTs required.

SINGLE-PHASE APPLICATIONS

Single-phase services may use either one hot conductor or two hot conductors.

SERVICE TYPE	TYPICAL VOLTAGE	CT QUANTITY	NOTES
Single-pole	120V	1 CT	Single-pole metering is relatively uncommon.
Single-phase two-wire	208V or 240V	2 CTs	
Single-phase 277/480V	277V (derived from 480V system)	Typically 2 CTs	



TIP

If a customer requests a "single-phase 120V meter," always clarify whether they mean:

- 120V single-pole
- 120/208V single-phase
- 120/240V single-phase

This distinction changes both the meter configuration and CT quantity.

3 IF THREE-PHASE, IS IT 3-WIRE OR 4-WIRE?

This is another critical question that is often overlooked.

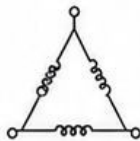
THREE-PHASE 3-WIRE (DELTA)

A three-phase 3-wire system is typically a delta service with:

- No neutral conductor
- No neutral reference to the meter

These applications commonly use:

2 CTs



Specialized meter configurations

These are considered special-application meters compared to standard commercial services.

THREE-PHASE 4-WIRE

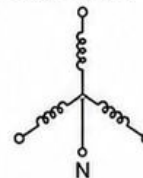
This is the most common commercial electrical service.

Typical examples include:

- 120/208V 3PH 4W
- 277/480V 3PH 4W
- 347/600V 3PH 4W

These applications normally require:

3 CTs



Standard three-phase four-wire meter configurations

4 WHAT IS THE SERVICE AMPERAGE?



CTs must be properly sized to match the service being monitored.

Examples:

100A

225A

400A

800A

1200A

Without amperage information, the correct CTs cannot be selected.



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5 WHAT IS THE INSTALLATION ENVIRONMENT?

Installation environment determines the enclosure type.



INDOOR INSTALLATIONS

Standard meter kits are typically supplied with:

- **NEMA 1 indoor wall-mount enclosures**

These are the most economical solution for dry indoor electrical rooms.



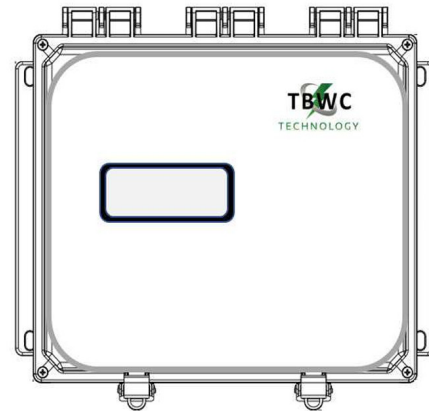
OUTDOOR / HARSH DUTY LOCKABLE

Used in outdoor, wet-location or for added meter access security:

- **NEMA 4X non-metallic enclosures**

Benefits include:

- Corrosion resistance
- Simpler conduit penetrations
- Easier field modification
- Reduced risk of metal shavings damaging electronics



NEMA 4X NON-METALLIC ENCLOSURE



STEEL JIC OR NEMA 3R ENCLOSURES

Steel enclosures are available when requested.

However, contractors should use extra caution when drilling conduit penetrations into steel enclosures to avoid leaving metal shavings inside the meter enclosure.



JIC ENCLOSURE MODEL

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6 DOES THE CUSTOMER WANT WALK-UP READING OR REMOTE READING?

This is another important application question.

WALK-UP / LOCAL DISPLAY METERS

For basic local display applications, standard walk-up/read meters are typically the most economical solution.

Most common applications can be selected directly from the standard E-Mon cross-reference guide.

These meters typically include:

- ✓ Local LCD display
- ✓ Revenue-grade metering
- ✓ Communications capability for future expansion

Most standard configurations are available in:

- Single-phase
- Three-phase
- 1-pole, 2-pole, and 3-pole configurations

Standard units are supplied in NEMA 1 indoor enclosures, with optional NEMA 4X outdoor versions available.



REMOTE READING OPTIONS

For customers who want remote monitoring, trending, dashboards, or tenant billing, we offer multiple solutions including:



Cloud-Based Metering

Meters connect directly to the customer's local area network using standard Ethernet (Cat5/Cat6).



DAS / AMR Systems

Customer-owned Data Acquisition System (DAS) and Automatic Meter Reading (AMR) platforms are also available.

These systems may provide:

- Remote monitoring
- Historical trending
- Utility billing
- Alarm notifications
- Energy dashboards
- Reporting
- Analytics

NOTE

If remote reading is required, we recommend contacting the factory so we can help identify the best solution for the application.

FINAL NOTES



Most DENT walk-up/read meters already include communications capability. This allows customers to later upgrade into a cloud platform or DAS/AMR system without replacing the original meter hardware.

IF YOU ARE UNSURE ABOUT THE APPLICATION, SIMPLY PROVIDE:

- Voltage
- Phase type
- Wire configuration
- Amperage
- Indoor or outdoor location
- Walk-up or remote reading preference

WITH THOSE SIX ITEMS, WE CAN USUALLY IDENTIFY THE CORRECT SUBMETER SOLUTION VERY QUICKLY.

For assistance, please contact TBWC Technology or your local representative.

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