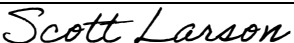


CITY OF AUSTIN ELECTRIC UTILITY DEPARTMENT

PURCHASE SPECIFICATION

FOR

**THIRTEEN TERMINAL, INSTRUMENT TRANSFORMER RATED,
THREE PHASE METER SOCKET WITH PRE-WIRED TEST SWITCH
AND VOLTAGE TRANSFORMER PACK**

DATE	PREPARED BY	ISSUANCE/REVISION	APPROVAL PROCESS MANAGER/STD. SUPV.
06/28/2010	Carlos Tello	Issuance	
05/24/2011	Carlos Tello	Revision	
04/11/2016	Abdur Rahman, P.E.	Revision	
09/09/2020	Abdur Rahman, P.E.	Revision	<hr/>  <hr/>

REASON FOR REVISION	AFFECTED PARAGRAPHS
Remove Lettering Requirement	5.1.1
Add Jump Wire Requirement	5.2.8
Add Universal Test Plug Requirement	5.2.9
Update Business Unit Name	6.2
Add Wiring Schematic	7.0

This specification, until rescinded, shall apply to each future purchase and contract for the commodity described herein.
Retain for future reference.

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FOR
THIRTEEN TERMINAL, INSTRUMENT TRANSFORMER RATED, THREE PHASE
METER SOCKET WITH PRE-WIRED TEST SWITCH AND VOLTAGE
TRANSFORMER PACK

1.0 SCOPE & CLASSIFICATIONS

- 1.1 This specification covers the classification, applicable standards, functional requirements, wiring, and performance requirements of transformer rated meter sockets with pre-wired test switches and voltage transformer packs (from hereon called "VT packs").
- 1.2 No deviation from this specification on the part of the bidder will be allowed. Any items supplied under this specification not in compliance with this specification shall be unacceptable.

2.0 APPLICABLE SPECIFICATIONS

- 2.1 The equipment furnished under this specification shall be manufactured and tested in accordance with current ASTM, NEMA and ANSI (C12.7 - Requirements for Watthour Meter Sockets and C12.9 - Test Switches for Transformer Rated Meters).

3.0 FUNCTIONAL REQUIREMENTS

- 3.1 The meter enclosures under this specification shall be used to protect metering connections in electric service installations for transformer rated meters.

4.0 PERFORMANCE REQUIREMENTS

- 4.1 The meter socket and test switch shall have, at minimal, 20 ampere, 600-volt capacity.
- 4.2 Test switch shall be wired to meter socket with AWG No. 12 copper (solid or stranded) wire and color coded in accordance with Section 5.2.2.
- 4.3 Wiring will be neat with 90-degree bends and tie-wrapped.
- 4.4 The VT pack shall have an Austin Energy approved wiring harness that shall be wired to the test switch and to the voltage terminal strip, which is wired to the wiring harness and bonded to the enclosure, providing isolated phase potentials. The harness shall interface to the VT pack via a 9-pin connector.

5.0 MATERIAL REQUIREMENTS

- 5.1 Meter Socket
 - 5.1.1 All enclosures shall be 16 gage galvanized steel or 14 gage aluminum with baked on gray finish.
 - 5.1.2 All enclosures shall have insulating materials of rosite, Phenalic, fiberglass, or equivalent non-tracking material rated 600 volts. (Ceramic material not acceptable.)
 - 5.1.3 Terminals shall be tin plated copper sleeve type connectors compatible with copper lugs and will accommodate AWG No. 14 through No. 4 wire.
 - 5.1.4 Knockouts shall be concentric. At least one 1", 1 1/4" and 1 1/2" on each side, at bottom, and at back and 1/4", 1/2" ground at bottom. The top shall have a provision for a 1 1/4" hub.
 - 5.1.5 All enclosures shall have test switch below meter.

- 5.1.6 All enclosures shall have a one-piece raintight ringless cover, with latch and approved sealing means for padlock type seal.
- 5.1.7 Minimum outside dimensions of the enclosure shall be sufficient to provide ample room for the distribution of the maximum-size conductors for which the socket is intended. The inside dimensions of the socket shall be 16” wide, 22” tall, and at least 5” in depth. The dimensions shall not deviate ¼”. The distance from the outer VT pack wall installed in the can to the A-phase current terminal in the meter socket shall be 5”. A three-studded system shall be welded to the left top-side of the meter socket.

5.2 Test Switch

- 5.2.1 Standard test switches shall be ten poles.
- 5.2.2 All test switch arrangements and color coding of handles and wiring shall be as follows and see item 7.0 for Austin Energy’s reference drawing:

Phase Arrangements	Switch Handle Color Code	Switch Pole No. (Left to Right)	Wiring Color Code Between Switch And Socket
Current (AØ)	Red	1	Red
Current Return(AØ)	White	2	Red
Voltage(AØ)	Orange	3	Orange
Current(BØ)	Black	4	Black
Current Return(BØ)	White	5	Black
Voltage(BØ)	Yellow	6	Yellow
Current(CØ)	Green	7	Green
Current Return(CØ)	White	8	Green
Voltage(CØ)	Blue	9	Blue
Current Return (Ground/Neutral)	White	10	White

- 5.2.3 All test switches shall have insulating barriers adjacent to the voltage switches. All copper parts will be nickel-plated.
- 5.2.4 Each double-pole, short-circuiting current switch shall be so designed as to permit the insertion of a test plug.
- 5.2.5 Test switches shall be provided with wiring terminals for the connection of AWG No. 12 secondary conductors with facilities for attaching test clips provided on the terminals.
- 5.2.6 Test switchblade hinges shall be held in place by locknuts or pins so arranged that a firm and secure connection would be maintained at any position on the switchblade.
- 5.2.7 Test switch cover shall be made of Lexan or fiberglass, and shall be held in place by cover studs 1/4 x 20. Studs shall have suitable provisions for sealing. When test switch cover is in place, all switches shall be in a closed position and socket cover can be sealed.
- 5.2.8 Return jumper wire shall be installed between positions 2, 5, 8. The ground wire shall be connected to position 8 of the test switch.
- 5.2.9 Each double pole current switch shall be designed such that a universal test plug shunt shall be inserted.

5.3 VT Pack

- 5.3.1 An Austin Energy approved VT pack shall be factory-labeled with Austin Energy barcode serialization and schematic detail.

6.0 DESIGN DRAWINGS AND TEST DATA

- 6.1 The Vendor shall provide an Austin Energy approved MS Excel data file for VT pack factory test results for each shipment.
- 6.2 The Vendor shall provide the AE Advanced Metering Systems & Engineering, at the beginning of each year in the month of January, drawings for all applicable meter sockets regardless of whether revisions have been made to the drawings. Failure to provide these drawings will result in the rejection of the Vendor from the Qualified Products List (QPL).

7.0 AUSTIN ENERGY'S REFERENCE WIRING SCHEMATIC FOR 9S METER SOCKET AND VT PACK

7.1 The reference wiring schematic shows test switch arrangement and VT Pack connection

