

# TPCC

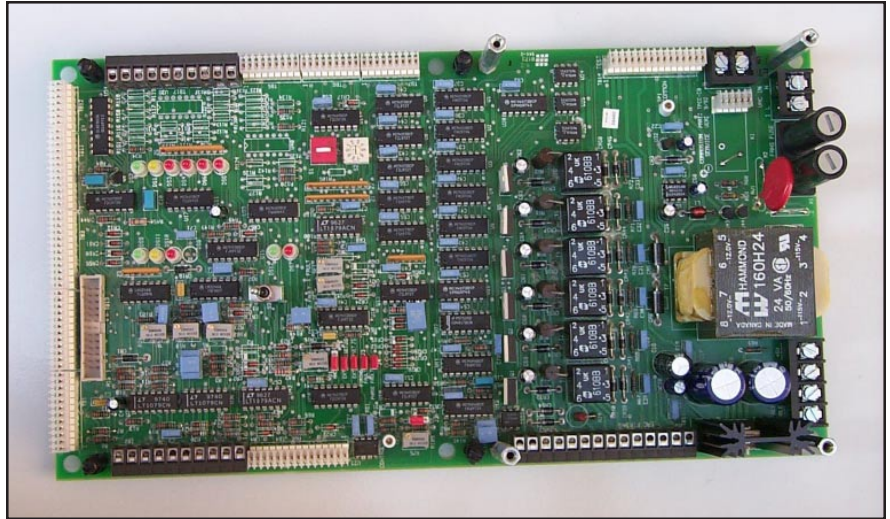
## THREE PHASE CURRENT CONTROLLER Controlled Current for Corrosion Prevention Systems

*Three Phase Current Controllers (TPCC's) are controlled, direct current sources for use in electrochemical corrosion control systems.*

*Three phase current sources are applicable for high power installations where phase balancing or available 120/240 VAC service sizes limit the usefulness of single phase rectifiers.*

*TPCC's offer the following advanced operational and control features:*

- *A single card provides all diagnostic, control, and SCR firing functions.*
- *Easily interfaced to external controllers.*
- *AC line isolation.*
- *Electrically isolated SCR bridge.*



### Control Flexibility

The TPCC changes control mode automatically, increasing current output until the first of POTENTIAL, CURRENT, or VOLTAGE control set point is encountered. Fully integral control rejects noise and eliminates error. Indicating LED's display which set point is controlling the current source.

- **Potential Control Mode:** Control by one to four reference electrodes is supported. The TPCC can be configured to automatically select the most electro-negative or electropositive of two reference electrodes.
- **Current or Voltage Control Mode:** Control can be adjusted from 0 to 100% of rated. ACTUAL and SET current levels are displayed on the integral LCD metering (Part No. UCCLCDM).

### Digital Metering

TPCC's operating in CURRENT or VOLTAGE control modes have a five parameter digital meter displaying; DC current & voltage, set current & voltage, and temperature.

TPCC's operating in POTENTIAL control mode include an additional five parameter meter displaying; three separate reference electrodes, corrosion coupons (or a fourth reference electrode), and set potential.

### Ease of Monitoring

The TPCC is supplied with an onboard connector for a Remote Monitoring Unit (RMU2) which monitors 16 analog parameters. Monitoring capacity can be increased up to 128 channels by adding Analog Capture Boards (ACB2's).

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For additional information please contact the office nearest you.

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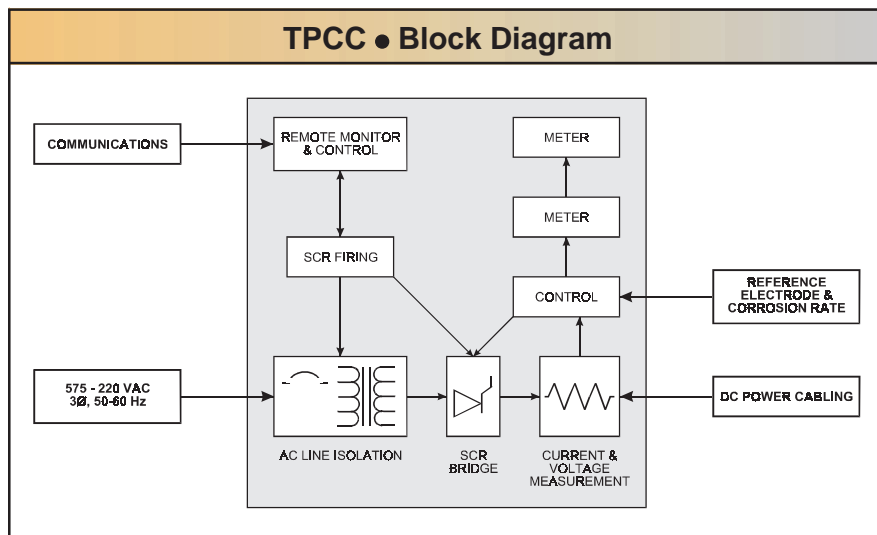
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**Safety**

The TPCC detects a number of operational internal faults and external operational states. On fault detection, the TPCC takes action to protect both the corrosion control system and the TPCC from further damage.

**Modular Construction**

Enclosure size, AC input rating, and command and control environment vary with DC rating and TPCC application.

Units rated for AC line voltages greater than 240VAC include a control electronics stepdown transformer.

Current sources rated higher than 200 amps require a cooling fan. These fans are thermostatically controlled by a separate fused circuit and include hysteresis to extend fan life.

A typical TPCC is mounted in a custom corrosion resistant steel

enclosure (62"H x 40"W x 30"D) rated for outdoor use.

Control electronics are mounted on an aluminum swing panel in front of the SCR's; protecting operators from shock and burn hazards.

**Ordering Information**

Part No. TPCC DCV.DCA.ACV.X

where: **DCV** = DC Volts  
**DCA** = DC Amps  
 (150-1000 Amps)  
**ACV** = AC Volts  
**X** = Options

**Options Include:** (Refer to data sheet No. 3616 for details)

- ACB2PS: Analog Capture Board Product Series
- AVIB1: Analog Voltage Isolation Buffer
- BD1: Buffer/Driver
- CMRB2: Common Mode Rejection Board
- FLT1: Filter Board
- RB1: Relay Board
- RMU2: Remote Monitoring Unit
- UCCLCDM: Digital Meter

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