

Proposal for 2009 Texas A&M Conference for Protective Relay Engineers

N2 - Revision of IEEE C37.2 – Function Numbers and Contact Designations

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IEEE C37.2 *Standard Electrical Power System Device Function Numbers and Contact Designations* was first published by AIEE in 1928. It provided the tools to describe, on drawings, the control and protection systems in automatic railway substations. Since then, C37.2 has become the “bible” for relay and control elementary diagrams. The last major revision was in 1991. The 1996 revision just added two methods of describing the contents of a multifunction device (Device 11).

The 2008 revision, published on October 3, includes substantial changes and additions to the 1996 version:

- Adds a function number (Device 16) for communication devices in a substation.
 - o With own set of suffix letters (S = serial, E = Ethernet).
 - o Subsequent letters define functions (modem, port switch, router, firewall, etc.).
- Adds example diagrams for serial and Ethernet substation communications system configurations.
- Includes a means to describe dual redundant Ethernet configurations (which can't be described in IEC 61850-6 Substation Configuration Language).
- Includes a cross reference table to IEC 61850 logical nodes.
- Includes seventeen acronyms (to describe 17 new functions) – some already in common use, but not previously defined in C37.2 and adds the word *Acronyms* to the title of IEEE C37.2-2008.
- One of the new acronyms – TCM (Trip Circuit Monitor) is defined as: “A device / function that monitors an associated circuit breaker’s trip circuit for continuity and for the presence of tripping voltage, and sets an externally readable alarm when continuity or tripping voltage is lost”.
- Another new acronym is AFD (Arc Flash Detector).
- Adds a more user friendly means of describing the contents of a multi-function IED.

The paper will describe the results of a survey done through IEEE staff to determine if some of the very old function numbers could be retired and reused. Regional relay conference e-mail lists were used for the survey that yielded almost 2000 responses.

The proposed presentation will focus on protective relaying applications.

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