

COTIDO ANSI DE FUNCIONES DE PROTECCIONES:

In [the design of electrical power systems](#), the **ANSI standard device numbers** (ANSI /IEEE Standard C37.2 *Standard for Electrical Power System Device Function Numbers, Acronyms, and Contact Designations*) identifies the features of a protective device such as a [relay](#) or [circuit breaker](#). These types of devices protect electrical systems and components from damage when an unwanted event occurs, such as an [electrical fault](#). Device numbers are used to identify the functions of devices shown on a [schematic diagram](#). Function descriptions are given in the standard.

One physical device may correspond to one function number, for example "29 Isolating Switch", or a single physical device may have many function numbers associated with it, such as a numerical [protective relay](#). Suffix and prefix letters may be added to further specify the purpose and function of a device.

ANSI/IEEE C37.2-2008 is one of a continuing series of revisions of the standard, which originated in 1928.

List of device numbers and acronyms[\[edit\]](#)

- 1 – Master Element
- 2 – Time delay Starting or Closing Relay
- 3 – Checking or Interlocking Relay
- 4 – Master Contactor
- 5 – Stopping
- 6 – Starting Circuit Breaker
- 7 – Rate of Change Relay
- 8 – Control Power Disconnecting Device
- 9 – Reversing Device
- 10 – Unit Sequence Switch
- 11 – Multi-function Device
- 12 – Overspeed Device
- 13 – Synchronous-speed Device
- 14 – Underspeed Device
- 15 – Speed – or Frequency, Matching Device
- 16 – Data Communications Device
- 17 – Shunting or Discharge Switch

- 18 – Accelerating or Decelerating Device
- 19 – Starting to Running Transition Contractor
- 20 – Electrically Operated Valve
- 21 – [Distance Relay](#)
- 22 – Equalizer Circuit Breaker
- 23 – Temperature Control Device
- 24 – Volts Per Hertz Relay
- 25 – Synchronizing or Synchronize-Check Device
- 26 – Apparatus Thermal Device
- 27 – Undervoltage Relay
- 27s- DC under voltage Relay
- 28 – [Flame detector](#)
- 29 – Isolating Contactor or Switch
- 30 – [Annunciator](#) Relay
- 31 – Separate Excitation
- 32 – Directional Power Relay or Reverse Power Relay
- 33 – Position Switch
- 34 – Master Sequence Device
- 35 – Brush-Operating or Slip-Ring Short-Circuiting Device
- 36 – Polarity or Polarizing Voltage Devices
- 37 – Undercurrent or Underpower Relay
- 38 – Bearing Protective Device
- 39 – Mechanical Condition Monitor
- 40 – Field (over/under excitation) Relay
- 41 – Field Circuit Breaker
- 42 – Running Circuit Breaker
- 43 – Manual Transfer or Selector Device
- 44 – Unit Sequence Starting Relay
- 45 –DC over voltage Relay
- 46 – Reverse-phase or Phase-Balance Current Relay
- 47 – Phase-Sequence or Phase-Balance Voltage Relay
- 48 – Incomplete Sequence Relay
- 49 – Machine or Transformer, Thermal Relay-OLR
- 50 – Instantaneous Overcurrent Relay
- 50G - Instantaneous Earth Over Current Relay (Neutral CT Method)
- 50N - Instantaneous Earth Over Current Relay (Residual Method)

- 50BF - Breaker failure
- 51 – AC Inverse Time Overcurrent Relay
- 51G- AC Inverse Time Earth Overcurrent Relay (Neutral CT Method)
- 51N- AC Inverse Time Earth Overcurrent Relay (Residual Method)
- 52 – AC [Circuit Breaker](#)
- 52a- AC Circuit Breaker Position (Contact Open when Breaker Open)
- 52b- AC Circuit Breaker Position (Contact Closed when Breaker Open)
- 53 – Exciter or DC Generator Relay
- 54 – Turning Gear Engaging Device
- 55 – Power Factor Relay
- 56 – Field Application Relay
- 57 – Short-Circuiting or Grounding Device
- 58 – Rectification Failure Relay
- 59 – Overvoltage Relay
- 60 – Voltage or Current Balance Relay
- 61 – Density Switch or Sensor
- 62 – Time-Delay Stopping or Opening Relay
- 63 – Pressure Switch
- 64 – Ground Detector Relay
- 64R - [Restricted earth fault](#)
- 64S - Stator earth fault
- 65 – Governor
- 66 – Notching or Jogging Device
- 67 – AC Directional Overcurrent Relay
- 68 – Blocking Relay
- 69 – Permissive Control Device
- 70 – Rheostat
- 71 – Liquid Level Switch
- 72 – DC Circuit Breaker
- 73 – Load-Resistor Contactor
- 74 – Alarm Relay
- 75 – Position Changing Mechanism
- 76 – DC Overcurrent Relay
- 77 – Telemetry Device
- 78 – Phase-Angle Measuring Relay or "Out-of-Step" Relay
- 79 – AC Reclosing Relay (Auto Reclosing)

- 80 – Flow Switch
- 81 – Frequency Relay
- 82 – DC Reclosing Relay
- 83 – Automatic Selective Control or Transfer Relay
- 84 – Operating Mechanism
- 85 – Communications, Carrier or Pilot-Wire Relay
- 86 – Lockout Relay/Master Trip
- 87 – Differential Protective Relay
- 88 – Auxiliary Motor or Motor Generator
- 89 – Line Switch
- 90 – Regulating Device
- 91 – Voltage Directional Relay
- 92 – Voltage and Power Directional Relay
- 93 – Field Changing Contactor
- 94 – Tripping or Trip-Free Relay(trip circuit supervision Relay)
- 95 – *For specific applications where other numbers are not suitable*
- 96 – Busbar Trip Lockout relay
- 97 – *For specific applications where other numbers are not suitable*
- 98 – *For specific applications where other numbers are not suitable*
- 99 – *For specific applications where other numbers are not suitable*
- 150 – Earth Fault Indicator
- AFD – Arc Flash Detector
- CLK – Clock or Timing Source
- DDR – Dynamic Disturbance Recorder
- DFR – Digital Fault Recorder
- DME – Disturbance Monitor Equipment
- ENV – Environmental Data
- HIZ – High Impedance Fault Detector
- HMI – Human Machine Interface
- HST – Historian
- LGC – Scheme Logic
- MET – Substation Metering
- PDC – Phasor Data Concentrator
- PMU – Phasor Measurement Unit
- PQM – Power Quality Monitor
- RIO – Remote Input/Output Device

- RTU – Remote Terminal Unit/Data Concentrator
- SER – Sequence of Events Recorder
- TCM – Trip Circuit Monitor
- LRSS - LOCAL/REMOTE SELECTOR SWITCH
- SOTF - Switch On To Fault