



# CPM 310 G

## Digital Overcurrent Protection Relay



DEMA proudly presents the users and modern networks a solid alternative for overcurrent protection with CPM 310 G; with the state-of-art electronic, physical and functional technology for use with (X/5) A or (X/1) A conventional type current transformers. As a DSP based digital multi-function protection & control relay with 3 phase & earth overcurrent protection, DEMA CPM 310 G is tested to fulfill international standards requirements; and provides the users numerous assembly, commissioning and service advantages.

### General Specifications

- Full screen R – S – T and N ampermeter display, measurement functions that eliminate the need to use double core CTs, external ampermeters and frequency-meters,
- Annunciating functions and 7 optic coupled programmable inputs that eliminate the need to use external annunciators (e.g. to evaluate Buchholz, temperature and pressure signals).
- Display of activated protection functions on a single screen,
- Largest LCD graphics screen in its class (128 px x 64 px); easy-to-navigate user friendly menus similar to mobile phones',
- Wide IEC, ANSI and custom curve support,
- DMT and IDMT support for all overcurrent protection functions,
- (X/1) A and (X/5) A current transformer compatibility in a single unit,
- Wide setting ranges; Current » (0.1-40)  $I_n$ , DMT » (0.01-150) s, IDMT (TMS & RTMS) » (0.025-3.2).
- Automatic secondary shorting,
- Quick alarm menu access and enhanced alarm explanations;
- 8 programmable alarm LEDs,
- Electro-magnetic compatibility tested for IEC directives,
- Draw-out system that enables under-load unit displacement / replacement,
- IP52 front side and IP20 backside environmental protection,
- SCADA ready,
- USB and RS485 communication ports; MODBUS RTU, IEC 60870-5-103 and DEMCOM communication protocols support,
- Free-of-charge PC software and accessories,
- Fast and low cost repairs thanks to the modular electronics,
- Matchless customer support.

### Functions

Function	ANSI Code	CPM 310 G
Phase Overcurrent – Instantaneous Trip	50	3 thresholds
Phase Overcurrent – Delayed Trip	51	3 thresholds
Earth Overcurrent – Instantaneous Trip	50N	3 thresholds
Earth Overcurrent – Delayed Trip	51N	3 thresholds
Restricted Earth Fault Protection	64N	3 thresholds
Thermal Overload Protection	49	2 thresholds
Undercurrent Protection	37	1 thresholds
Negative Sequence Overcurrent Protection	46	2 thresholds
Latching	86	✓
Circuit Breaker Failure Detection	50BF	✓
Auto-reclosing	79	4-shot
Broken Conductor Detection		✓
Cold Load Pickup Function		✓
Settings Groups		2 groups
Trip Circuit Supervision		✓
Circuit Breaker Supervision and Control		✓
Blocking Logic Selectivity		✓
Delaying Logic Selectivity		✓
On Screen CB ON / OFF commanding		✓
Optic-coupled Inputs		7
Outputs (Total / SPDT / SPST)		8 / 4 / 4
Disturbance Waveform Recording		3 x 5 s
Event and Fault Records		150 records
Communication Ports		USB + RS485
(X/1) A & (X/5) A CT compatibility		✓
Frequency and Current Measurements		✓
Thermal Image Measurements		
Positive and Negative Sequence Current Measurements		✓
Auto-recloser Measurements		✓
Watchdog		✓
Self-Function-Testing		✓

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