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DSP-223-X-TDM Retrofit Bracket

(Replacement for DSP-MK II units)

The new DSP-223-X-TDM retrofit assembly is a direct replacement of the DSP-MK II. It uses a DIN rail style construction, maintains the functions of the DSP-MK II and adds more. The new DSP-223-X-TDM retrofit assembly is equipped with a Touchscreen Display for set-up, control, trend analysis, events and alarm logging, etc.

The DSP-223-X-TDM Ground Fault Alarm/Trip Unit construction is built as a plug-in module system. This arrangement offers maximum flexibility for adding feeder modules monitoring as the distribution system expands.

The DSP-OHMNI system is normally mounted inside an MCC cabinet with only the Touchscreen Display Module mounted through the front. For those installations that absolutely must maintain the location of the original DSP-MK II I-Gard supplies the retrofit assembly DSP-223-X-TDM. The DSP-223-X-TDM provides all the features of the DSP-OHMNI system in a package that slips easily into the existing DSP-MF opening. And as a bonus it also uses the same current sensors that were used by the DSP-MK II. There is no need to change the current sensors.

Now:

Front view

Back view

Before:

The DSP-MK II system was designed to detect the event of a single ground fault, signal an alarm, and point to the affected branch or feeder. It is the only system that provided protection of a selective 2nd fault trip function.

Many DSP-MK II systems have been faithfully performing their designed function in installations throughout North America and around the world for years or decades. Unfortunately as with all high performance systems, the DSP-MK II has become obsolete, out of manufacture and eventually out of spare parts.

Front view

DSP-223-X-TDM offers additional benefits compared to its predecessor (DSP-MK II):

- A user friendly interface DSP-TDM (Touchscreen Display Module) to set up the system , it provides feeder identification function, pulsing activation for ground fault location via display, set up for alarming, tripping and prioritization of critical loads/feeders. In addition, DSP-TDM is equipped with ports for MODBUS RTU and MODBUS TCP/IP communication.
- All the flexibility provided by DSP-OHMNI system, DIN-rail mounted modules and pre-wired components.
- Full compatibility with Zero Sequence Current Sensors (ZSCS) used by DSP-MK II making installation easier and faster.
- DSP-DRM3 (Resistor Monitoring Module) can be plugged into the DSP-223-X-TDM to provide additional system protection.
- DSP-OHMNI system complies with the requirements of the CEC 2021.

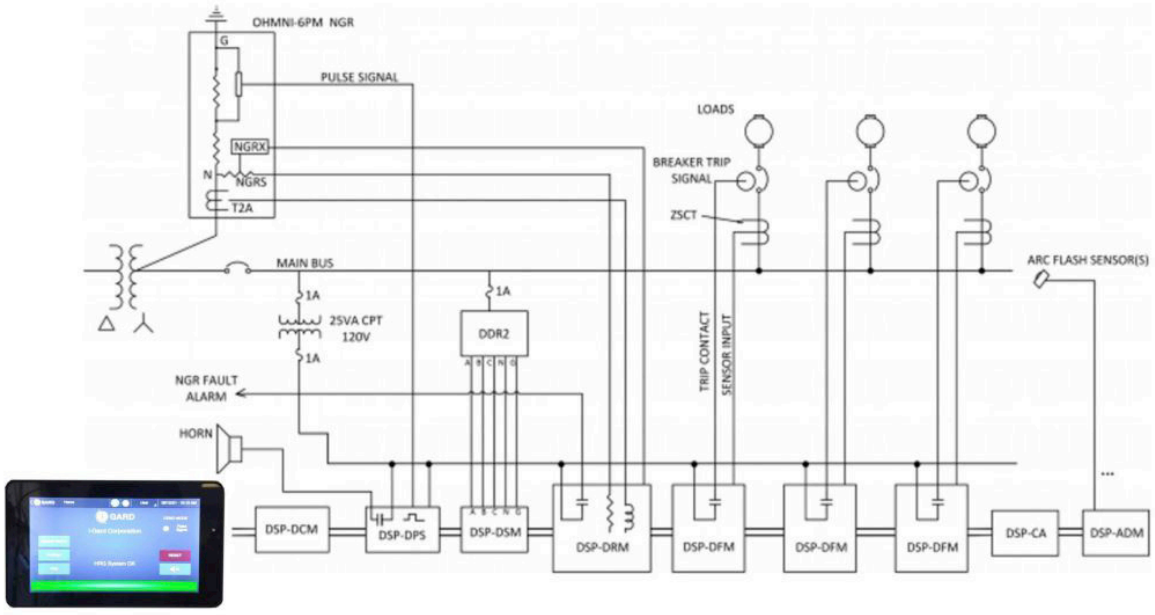

Figure 1: DSP-OHMNI System modules - Wiring Diagram

FEATURES	BENEFITS
DIN-rail parts	Compact mounting reduces space requirements.
Compact Feeder Modules (DSP-DFM)	Large systems up to 50 circuits / DSP-OHMNI system can be accommodated.
NGR Monitor (DSP-DRM3)	Monitors the status of grounding resistor in one DSP-OHMNI compatible unit.
Touchscreen Display (DSP-TDM)	Provides a simple yet intuitive interface that creates a seamless user-experience by guiding users through its advanced features. Direct access to set-up and controls.
MODBUS Communications	Allows the operator to remotely monitor which feeder has faulted as well as the leakage currents of all feeders for trending purposes.
Selectable Trip on 1st Fault or 2nd Fault Operation	Provides user the option of maximizing continuity of service (2nd fault trip) or minimizing fire/damage risk (1st fault trip). Both can be used on the same system.
0-99 hours Delay Setting on 1st Fault Trip	Allows time to locate fault and/or orderly shutdown of equipment.
10-90% Alarm Level Setting	User selected sensitivity in 10% increments, allows maximum sensitivity to be used while preventing nuisance alarms.
Selectable MUTE ON/OFF Function	Allows alarm contact to be used for other applications.
Password Protected Setup	Four digit codes selectable by user prevent unauthorized setup changes while still allowing self-test and read-only data.
Self-Test of Modules	Internal self-test of DSP-DFM, DSP-DSM verifies connections to provide assurance of functionality.

TECHNICAL SPECIFICATIONS	
Power Requirements	100-240V, 50/60 Hz or DC, 25 VA
Dielectric	Relay contacts to chassis 1500 Vrms for 1 minute alarm level Control terminals to chassis 1500 Vrms for 1 minute alarm level IEC-60255-5
Trip Level Inhibit	25% of system ground current
Contact Ratings	DSP-DFM: Trip Contacts- Form "C" SPDT 10 Amp., 240 V AC resistive DSP-DPS: Alarm Contacts- Form "C" SPDT 8 Amp., 240 V AC resistive IEC-60950
Performance	DSP-DFM: Pickup Accuracy: ±10% of system let-through current DSP-DSM: Alarm Level Accuracy: ±10% of I_G
Temperature Range	0°C to 50°C

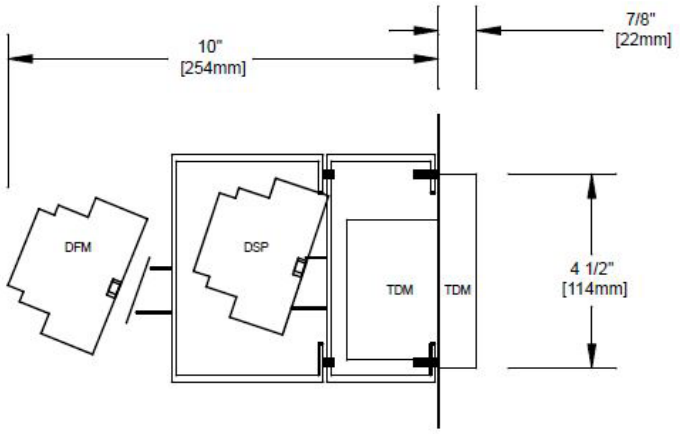

Figure 2: DSP-223-X-TDM - DIN rail mounting detail - Side View

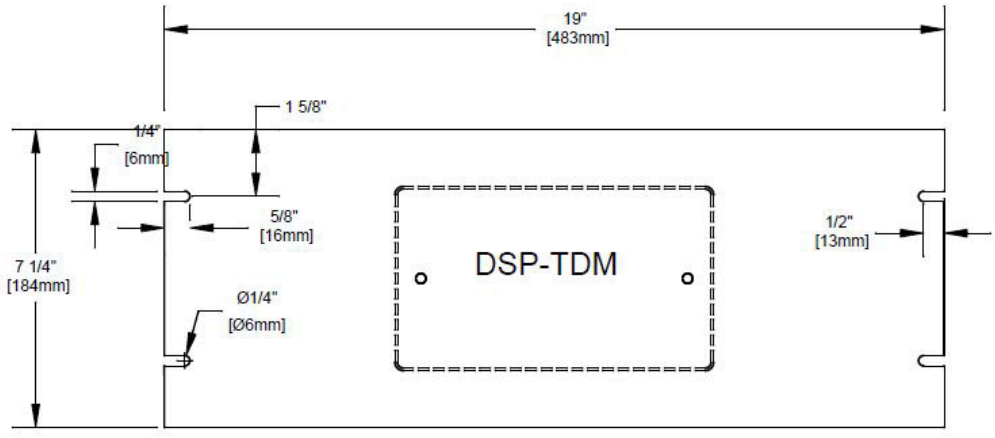

Figure 3: DSP-223-X-TDM - Dimensional Drawing - Front View

* Each rack is suitable for flush mounting in switchgear control compartment doors or into a standard 19" rack frame.

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Designed & Manufactured
in Canada

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