



ADVANCED POWER
TECHNOLOGIES

Caterpillar Communications Integrator Panel



CCMM-Series 13 Industrial Control Panels Solutions Brochure

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**SAFE SMART SERVICEABLE SWITCHGEAR &
ENGINEERED POWER SYSTEM SOLUTIONS**



ALN: 513 Rev. 01

Standard Features



Figure 1: One Generator Communication Conversion



Figure 2: Carbon Steel NEMA 1 Enclosure (Door Closed)



Figure 3: Two Generator Communication Conversion

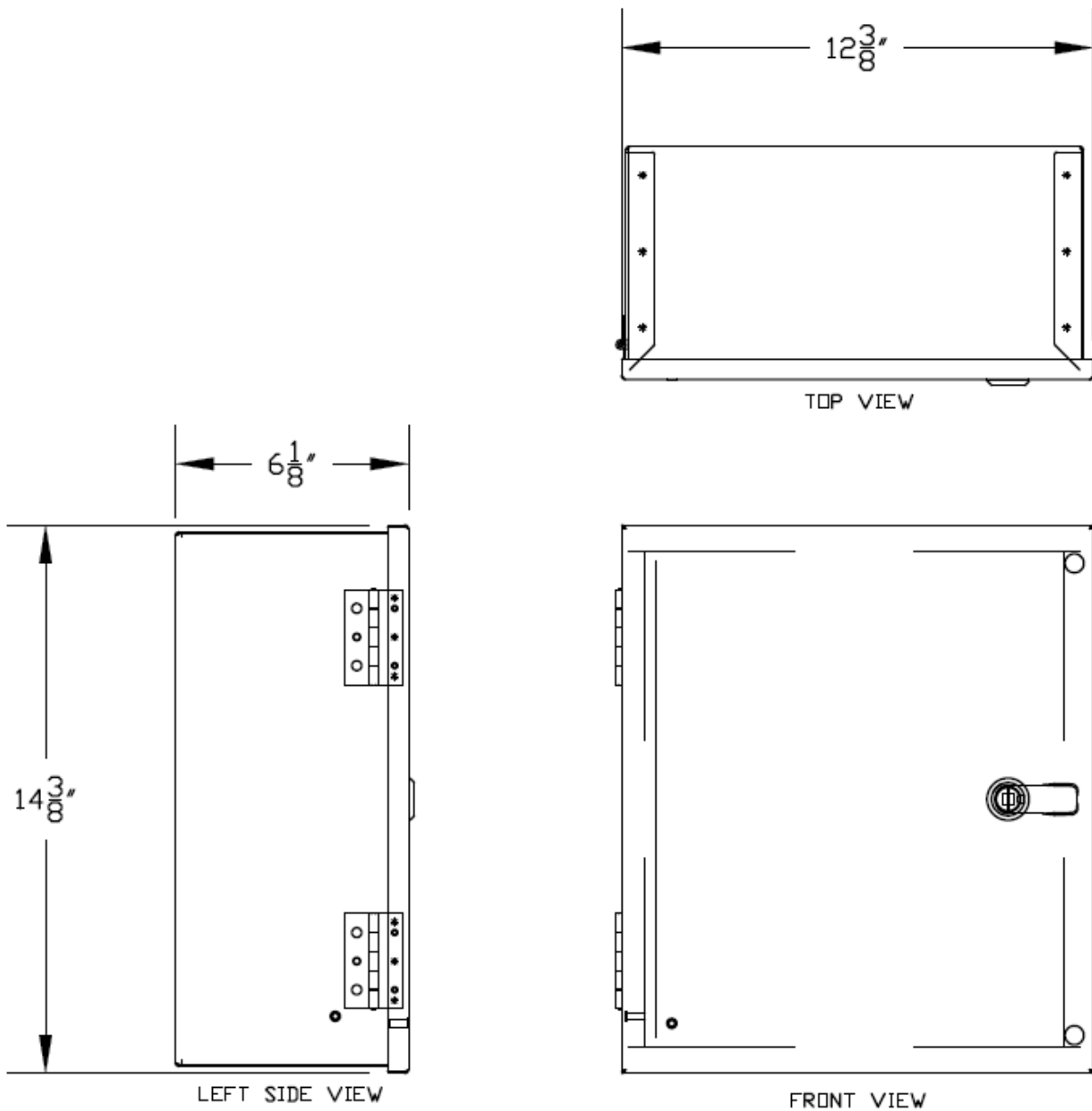
Single or Dual Generator Communications Made Easy

- ⦿ Genuine CAT Components from CAT Communications Experts
- ⦿ Integrates Caterpillar CCM and Converts Outputs to RS-485 Port with Modbus RTU or ASCII Protocol
- ⦿ Modbus RTU Protocol Allows For Easy Integration Into Customers SCADA, DSC Or Other Computerized Monitoring Systems
- ⦿ Dual CCMM-Series Panels Monitor Up To:
 - One (1) EUI Engine & One (1) EMCPII/EMCPII+
 - Two (2) EMCPII/EMCPII+
- ⦿ Fully Integrated NEMA 1, NEMA 3R, or NEMA 4X (Stainless Steel) Wall-Mounted Panel
- ⦿ Jumper Selectable 2 Wire or 4 Wire RS-485 Connection
- ⦿ All 24VDC Inputs and Outputs are Readable and Writable via Modbus Port
- ⦿ Easy Install - No Special Tools/Connectors Required
- ⦿ Standard Termination Points for Field Connections:
 - 24VDC (120VAC if applicable) Control Power
 - CAT Data Link
 - RS-485 Connection
- ⦿ 16 Additional 24VDC Inputs for Monitoring Additional Field Devices such as Fuel, Oil & Coolant Levels, Spill Switches, Circuit Breaker Positions, etc.
- ⦿ 16 Additional 24VDC Digital Outputs for Controlling Louvers, Circuit Breakers, Start/Stop, etc.
- ⦿ Factory Preconfigured Register List for Plug and Play Operation with Custom Register Mapping Available
- ⦿ Optional Features:
 - Power Supply
 - Ethernet Switch
 - RJ45 Connection
 - Contact APT for Additional Features

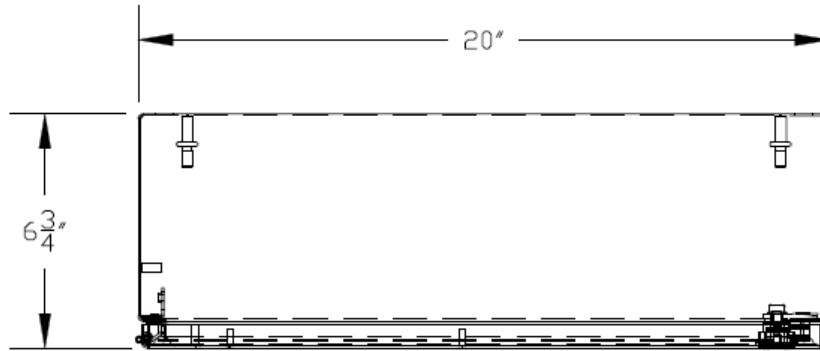
Typical Parameters Register List

#	Parameter	Request Rate	Modbus Register	Data Type	Data Length	Resolution	Signed
1	Engine Speed	1000	40600	Float	2	0.5 RPM	TRUE
2	Engine Oil Pressure	1000	40601	Float	2	0.5 kPa	TRUE
3	Engine Coolant Temperature	1000	40602	Float	2	1 Deg C	TRUE
4	Boost Pressure	1000	40603	Float	2	0.5 kPa	TRUE
5	Fuel Pressure	1000	40604	Float	2	0.5 kPa	FALSE
6	Fuel Consumption Rate	1000	40605	Float	2	0.05 L/h	FALSE
7	Battery Voltage	1000	40606	Float	1	0.5 Volts	FALSE
8	Diagnostic Clock	1000	40607	Float	4	1 hours	FALSE
9	Left Turbo Inlet Pressure (abs)	1000	40609	Float	2	0.5 kPa	TRUE
10	Right Turbo Inlet Pressure (abs)	1000	40610	Float	2	0.5 kPa	TRUE
11	Aftercooler Temperature	1000	40611	Float	2	1 Deg C	TRUE
12	Fuel Filter Differential Pressure	1000	40612	Float	2	0.5 kPa	FALSE
13	Oil Filter Differential Pressure	1000	40613	Float	2	0.5 kPa	FALSE
14	Left Exhaust Temperature	1000	40614	Float	2	1 Deg C	TRUE
15	Right Exhaust Temperature	1000	40615	Float	2	1 Deg C	TRUE
16	Total Fuel	1000	40616	Float	4	0.125 Gal	FALSE
17	Engine Oil Temperature	1000	40620	Float	2	1 Deg C	TRUE

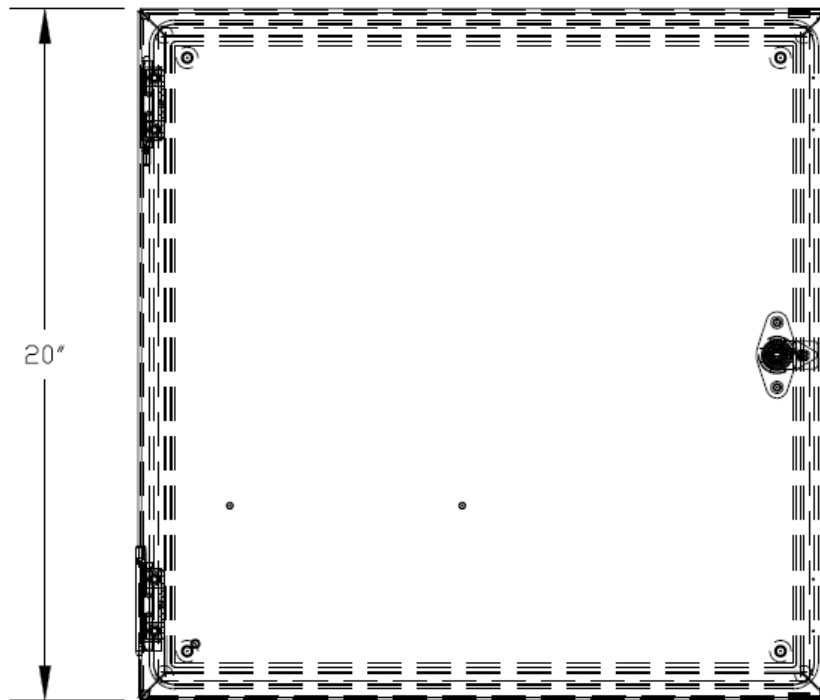
Single EUI Engine/EMCP II/EMCP II+



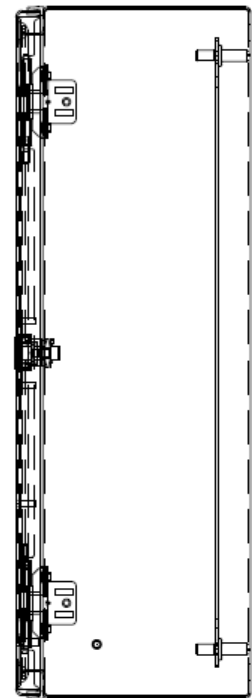
Dual EUI Engine/EMCPII/EMCPII+



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

About Advanced Power Technologies



Advanced Power Technologies (APT) is on the cutting edge of the latest engineered power system smart technologies, as it relates to microgrid & storage management, renewable & conventional energy source deployment, demand peak shaving, and facility back-up and co-generation power systems. Located in the central United States and headquartered in Lafayette, Indiana with solutions development engineers around the country, APT provides domestic and international products and services to industry leading companies from around the world. APT engineers have decades of power system experience from working with some of the largest companies in industry. Over the last two decades, we have produced successful solutions for hundreds of large-scale electric power projects involving utility/generator paralleling, transfer, peak shaving, and distribution. We pride ourselves in providing electrical power systems that are engineered and custom built, utilizing state-of-the-art technologies to fit our customer's exact needs. The core of our business is low & medium voltage engineered power systems for a wide range of indoor & outdoor applications, such as:

- ⊙ Utility(ies) and Generator(s) Paralleling/Transfer/Peak Shaving/Distribution Switchgear
- ⊙ Microgrids, Microgrid Master Control Panels, SCADA systems
- ⊙ Containerized Battery Energy Storage Systems (BESS)
- ⊙ Photovoltaic (PV) Solar Power Collection/Distribution & Renewable Energy Storage Systems
- ⊙ Low & High Resistance Grounding Systems, Grounding Systems for Photovoltaic Effective Grounding
- ⊙ High Efficiency Combined Heat and Power Switchgear & Control Systems (CHP, Co-generation)
- ⊙ Outdoor Walk-In Electrical Houses (E-Houses) & Skid-Mounted Switchgear
- ⊙ Motor Control Centers & Motor Control Switchgear
- ⊙ Automatic & Manual Load Transfer Switchgear
- ⊙ Bypass/Isolation & Power Distribution Circuit Breaker Switchboards
- ⊙ Generator/Loadbank Quick Connection Switchgear, Switchboards, & Tap Boxes
- ⊙ Industrial Control Panels

Please see our product webpages on www.appt-power.com for product brochures and relevant information. Actual products may look different from images shown on the website and in brochures, based on actual specifications. APT cares and understands that each power system is different. We will evaluate various solutions in order to develop the best solution for a site. APT focuses on our ability to a combine several traditional pieces of equipment/functionality into as little of a footprint possible. This saves on space, the cost of equipment, cost of installation, and accomplishes the most optimal/state-of-the-art design your facilities. APT's desires to foster and grow a culture of continued open communication with each customer. Let APT be your source to provide fully engineered power system equipment solutions for the full customer facility on time, on or under budget, and in the smallest footprint possible. We are always available to assist customers and engineers representing customers in the development of complex power solutions for all facility types.