

Plant Condition Monitor for Generators



Description

PCM continuously identifies existing and developing faults on generators and their prime movers, effectively using the generator itself as a sophisticated transducer. PCM utilizes an intelligent, model-based approach to provide anomaly detection by measuring the current and voltage signals from the electrical supply from the generator. It is permanently mounted, generally in the generator control center and is applicable to 3-phase AC generators. Accompanying MCMScada Software or Artesis Enterprise Server (OPC Server) is used to view the data.

PCM provides both mechanical (unbalance, misalignment, roller bearings, etc.) and electrical (loose windings, short circuits, etc.) anomaly detection as well as electrical parameters such as voltage and current imbalances and power factor.



GENERAL INFORMATION

Motor Type

PCM cannot be used with generators which have fast current variation. Generator current variation must be less than 15% during 6 sec data acquisition period.

ENVIRONMENTAL

Operating Temperature

0 – 40° C (32 – 104° F)

Humidity

Up to 90% RH, non-condensing

INPUTS

Power Input Required

100-240 Vac, 47 – 64 Hz, 19 VA, 200 mA or 120-300 Vdc, 19 VA, 200 mA (use UL listed fuse with proper voltage rating)

MEASUREMENT VOLTAGE INPUTS

Low Voltage Models (≤ 480 Vac)

Can tap directly off voltage lines to generator

High Voltage Models (>480 Vac)

Three Cat II Voltage Transformers*: 0.5% accuracy; 100 V, 110 V, or 120 V secondary voltages

MEASUREMENT CURRENT INPUTS

Three 250 Vac, Cat II Current Transformers*: 0.5% accuracy, with either 5A or 1A secondary outputs depending on PCM model

OUTPUTS

Communications

RS422/RS485 (RS232 and Ethernet with additional appropriate converter)

Relay

One assignable relay output, user programmable; NC/NO contacts (2A, 30VDC)

PHYSICAL

Weight

1170 g (2.58 lb)

Dimensions WxHxL

96 mm x 96 mm x 140 mm (3.78 in x 3.78 in x 5.51 in)

Protection Class

Front Panel: IP 40, Whole Unit: IP 20

Mounting

Front Panel Mounting (indoor)

COMPLIANCE & CERTIFICATIONS

EMC

EMC Directive 2004/108/EC, EN 61326-1, IEC 61326-1

Safety

Measurement Control and Laboratory Use for Industrial Environments

Electrical Safety Directive 2006/95/EC, EN 61010-1, UL 61010-1, IEC 61010-1

Safety Requirements for Electrical Equipment

NATO Stock Code

6625270131535

(*) Voltage and current transformers must meet local standards and regulations. For North America, current and voltage transformers must be certified by an OSHA appointed NRTL to appropriate product safety standards such as UL or CSA.