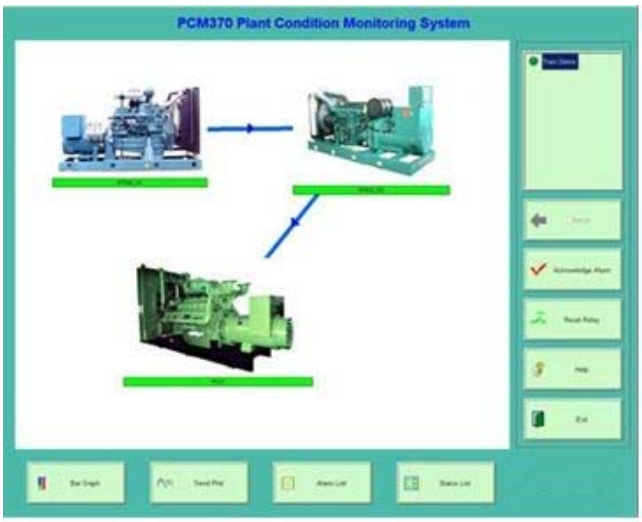
PCM370 Plant Condition Management System

Introduction

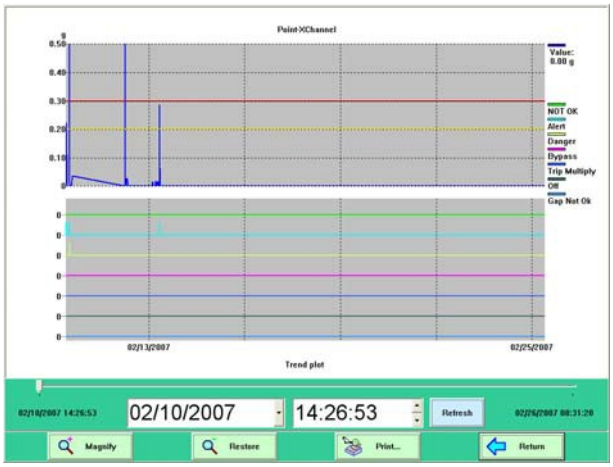
The PCM370 plant condition management system collects, stores, analyzes and distributes machinery status monitoring information to a local network or wide area network (over the Internet). The PCM370 obtains status data of critical machinery as well as balance of plant equipment. All of PVTVM's digital monitoring systems are quickly and easily integrated into the PCM370 system, as well as devices from other manufacturers which communicate via Modbus. Besides the vibration monitoring data, the PCM370 is also capable of collecting numerous process variables such as voltage inputs, current inputs, RTDs, thermocouples, discrete inputs and Modbus.



PCM370 Features

- ***Integrates all of machine running monitoring data into one system***
- ***Measures static variables and process variables***
- ***Integrates process inputs***
- ***User-friendly system with touch panel***
- ***PVTVM's database***
- ***Software alarms used for indication of machine status***
- ***Data collection done automatically or with alarm***
- ***Modbus data collection and storage***

Waveform and spectrum information are not available.



PCM370-CFG System Configuration Software

Automatic configuration:

All PVTVM's digital monitors can be automatically configured by the PCM370. Only a couple clicks of the mouse to setup.

- DTM
- PT2060
- PT580
- DM200
- PT371

Ability to interface with other devices which have Modbus interface:

Any other manufacturers' Modbus (Modbus RTU/TCP) device can integrate with the PCM370. Status and running data are configured according to user requirements.

Machine graphical interface:

The PCM370 provides a library of machine photos or user may import images which can be used for the machine status display.

The following are configurable:

Data mapping by machines.
Trend – history (chart list recorder)
Trend – real-time
Alarms with PT373 mapping
4-20mA with PT372 mapping
Software program runs on PCM-TOUCH or any standard computer.

PCM370 Software

The user interface that displays the machine condition graphs is included in the PCM370 Software. Data is obtained from PVTVM's database.

Hardware interface:

- PVTVM's digital monitors (Modbus RTU/TCP)
- Other manufacturers' equipment (Modbus RTU/TCP capable devices)
- RTU, thermocouple inputs
- Current and voltage inputs
- Discrete inputs/relays

Standard condition monitoring plot:

- Machine-train graphical interface with real-time status
- Machine graphical interface with real-time measurement point overall and status
- Trend plot of historical data with single or multiple points
- Real-time alarms, alarm list
- Real-time overall vibration and status table view
- Bar graph of 12 and 24 channels
- Real-time trend plot, simulate recorder
- Print any viewing window

Measurement range:

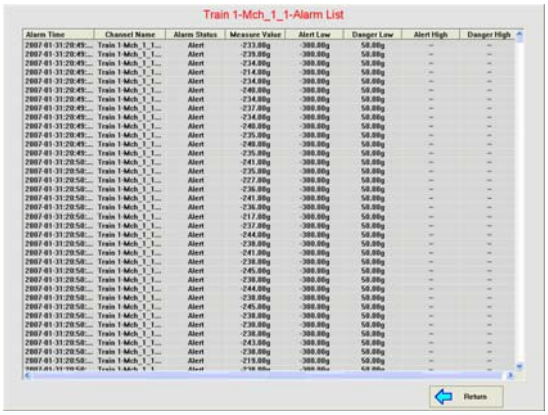
Acceleration (PK or RMS): 0 - 20g
Velocity (PK or RMS): 0 - 200 mm/sec (0 - 8 in/sec)
Displacement (PK-PK): 0 - 100 mm (0 - 4 in)

Units of measurement:

Peak
Peak to peak
RMS
Average

Route can be configured to three hierarchy layers:

Machine-Train
Machine



Measurement- Point

Storage databases:

PVTVM's database

Data storage capacity:

Limited by hardware storage capacity
Unlimited by software

Routing capacity:

Unlimited in machine train, machine and measurement point

Modbus interface:

- Works with all PVTVM's digital monitors
  PT2060
  DTM
  DM200
  PT580
  PT371, PT372, PT373
- Works with any other vendors' Modbus RTU/TCP

Bar graph:

Each channel accepts up to 16 status parameters; such as OK, Alert, Danger, Trip-multiply, etc. This information is user-configurable.
For displays greater than 12 channels in the bar graph, the status output will not show.

Printer support:

Each graph can be printed.

PT371 Universal Input Module

The PT371 is a 16 channel input module.

Signal Inputs:

Voltage input: 0 - 10V; -5 to +5V

Current input: 4 - 20mA (with the shunt resistor)
Thermocouple or thermo resistors:
Discrete input: any 0-24V; 0-12V; 0-5V
TC: K, E, S, T, N, J, B, R, EU-2
Compensation mode: Inner, Specify and Exterior
RTD: Pt100, Cu50, Cu100, BA1, BA2, G
Wire Unit: 2-wires, 3-wires

Data Acquisition Rate:
1.0 sec

Amplitude Resolution:
PT371 module: 12 bit
0.2% FS

Power Supply:
24VDC +/- 10% @ 150mA

PT372 4-20mA Output Module

The PT372 is a 4 channel 4-20mA output module used with the PCM370.

Amplitude Resolution:
PT372 module: 12bit

Power Supply:
24VDC +/- 10% @ 100mA

Maximum Load:
750 ohms

PT373 Relay Module

The PT373 is a 16 channel relay module. The PT373 can be configured for any logic combination of alarms or status of each channel from the PCM370.
The relays are selectable as: energized/de-energized, latching/non-latching and bypass.

Power Supply:
24VDC +/- 10% @ 150mA

Relays:
Seal: epoxy
Capacity: 0.5A/230VAC/30VDC, resistive load
Relay type: SPTD
Isolation: 1000VDC

PCM-TOUCH

The PCM-TOUCH is a touch panel computer.

Electrical
Touch Screen power supply:
100 - 240 VAC @ 50 ~ 60 Hz, 4 - 2 A

Environmental
Temperature:
Operation: 0℃ to +50℃
Storage: -20℃ to +60℃
Humidity:
10 ~ 90% @ 40 ℃ (non-condensing)

Physical
Touch panel, color 15″ computer
Dimensions (W x H x D):
Front Panel: 450 x 315.6 x 6 mm
Control Box: 422.4 x 219.4 x 97/112.2 mm
Cut out Dimensions: 428 x 297 mm

System Specifications
Intel® Celeron® M 1GHz CPU
1GB RAM, 80G HD
15″LCD, 1024*768 screen resolution
Support USB 2.0 high performance peripherals
Optical Driver: 1 x Slim Type DVD

Order Information

PCM370-AX-BX-CX-DX

PCM370 plant condition management system software:

AX: Condition Monitoring Module Selection
A0: Standard condition monitoring
BX: Database Selection
B0: PVTVM's single license database CX: User License
C0: Single user license
DX: Hardware Interface
D0: All available hardware

D1: PT2060

Accessories

PT371

16 channels universal input module

PT372

4-20mA, 4 channels output module

PT373

Relay alarm module, 16 channels

DTM96

RS485 to RS232/RS485/RS422 converter with signal isolation for Modbus connection

RS232-USB

RS232 to USB converter for Modbus connection

RS485-USB

RS485 to USB converter for Modbus connection with isolation

PCM-TOUCH

Touch panel computer that works with PCM370 software