



## 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

Train 1-Mch_1_1-Alarm List							
Alarm Time	Channel Name	Alarm Status	Measuror Value	Alert Low	Danger Low	Alert High	Danger High
2007-01-31 23:49:01	Train 1-Mch_1_1_1	Alert	273.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_2	Alert	275.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_3	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_4	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_5	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_6	Alert	277.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_7	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_8	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_9	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_10	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_11	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_12	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_13	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_14	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_15	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_16	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_17	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_18	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_19	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_20	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_21	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_22	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_23	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_24	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_25	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_26	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_27	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_28	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_29	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_30	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_31	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_32	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_33	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_34	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_35	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_36	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_37	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_38	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_39	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_40	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_41	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_42	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_43	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_44	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_45	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_46	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_47	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_48	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_49	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_50	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_51	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_52	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_53	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_54	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_55	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_56	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_57	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_58	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_59	Alert	274.80g	-300.00g	50.00g	--	--
2007-01-31 23:49:01	Train 1-Mch_1_1_60	Alert	274.80g	-300.00g	50.00g	--	--

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°C to +50°C

Storage: -20°C to +60°C

Humidity:

10 ~ 90% @ 40 °C (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

**Train 1-Status List**

Name	Measure Value	Alert High	Danger High	Alert Low	Danger Low	Digital Status
1 Mch_1_3 MchPT113 VChan	-278.89 g	-380.89 g	58.89 g	--	--	--
1 Mch_1_3 MchPT113 VChan	--	--	--	--	--	True
1 Mch_1_3 MchPT113 VChan	-242.89 g	188.89 g	128.89 g	--	--	--
1 Mch_1_3 MchPT113 VChan	--	--	--	--	--	False
1 Mch_1_3 MchPT112 VChan	188.89 EU	188.89 EU	128.89 EU	--	--	--
1 Mch_1_3 MchPT112 VChan	188.89 EU	188.89 EU	128.89 EU	--	--	--
1 Mch_1_3 MchPT121 VChan	188.89 EU	188.89 EU	128.89 EU	--	--	--
1 Mch_1_3 MchPT121 VChan	188.89 EU	188.89 EU	128.89 EU	--	--	--
1 Mch_1_3 MchPT122 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_3 MchPT122 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_3 MchPT131 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_3 MchPT131 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_3 MchPT132 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_3 MchPT132 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_4 MchPT41 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_4 MchPT41 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_4 MchPT42 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--
1 Mch_1_4 MchPT42 VChan	188.89 EU	8.89 EU	18.89 EU	--	--	--

## 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

