infiSYS RV-200
SYSTEM

SPECIFICATION

DAQpod DP-2000B
infiSYS Data Acquisition Unit

Model Code/Additional Spec. Code (No entry if additional spec. code is not specified.)

DP - 2000B - 30 - A □□□-□□□ - 000 - 000 - □ /TBB / CS □

Case (Max. number of I/O boards)	
B	24ch Box (6 Boards)

	Board configuration*1		
	I/O1	I/O2	I/O3
0	NA	NA	NA
1	Vib	Vib	Vib
8	-	-	PM

	Board configuration*1		
	I/O4	I/O5	I/O6
0	NA	NA	NA
1	Vib	Vib	Vib
8	-	-	PM

	Mounting
0	Floor
1	Wall

Input Terminal block

	Custom setup
0	・IP address setup
1	・IP address setup ・Customize work 1ch to 12ch
2	・IP address setup ・Customize work 13ch to 24ch

*1 The maximum number of input channels on an analysis board (vibration/process signal input) or a phase marker board is 4.
NA : I/O board is not available. (Enter “0”)
Vib : An analysis board (vibration/process signal input) can be mounted in this slot. (Enter “1”.)
PM : A phase marker board can be mounted in this slot. (Enter “8”.)
- : A phase marker board can not be mounted in this slot.

Specification

INPUT

ANALYSIS BOARD (VIBRATION SIGNAL INPUT)*2

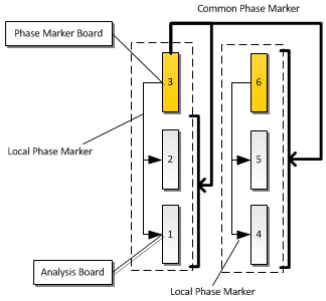
Number of input channels : 4 ch
Maximum number of boards
: 6 boards par unit.*3
Input voltage range : -25 V to +25 V
(Accuracy guaranteed : -20 V to +20 V)
(vibration signal input)
1 V～5 V, 0 V～5 V, 0 V～10 V
(process signal input) *4
Input impedance : Approx. 50 kΩ
Signal input terminal block : FK-MCP 1,5/12-STF-3,81 (Phoenix contact) *5

*2 By changing the setting, it can enter the mode to measure process (voltage) signals.
*3 Relation between the number of inputs and the number of I/O boards
Total inputs (vibration) = Number of analysis boards x 4
Number of analysis boards + Number of phase marker boards ≦ 6
*4 When you are using current input (4 to 20mA), use a reference resistor to convert it to voltage before inputting.
*5 Input terminal block plugs are available as option.
*6 Always disable OK alarm when using integrator in critical mode.

PHASE MARKER BOARD (PHASE MARKER SIGNAL INPUT)

Number of input channels	: 4 ch
Maximum number of boards	: 2 boards par unit.*7
Input voltage range	: -25 V to +25 V
Min. pulse width	: 50μsec
Triggering	: Auto / manual operation
Input impedance	: Approx. 50 kΩ
Rotation speed range	: 60 rpm to 60,000 rpm*8
Signal input terminal block	: FK-MCP 1,5/12-STF-3,81 (Phoenix contact)*5

*7 Distribution of phase marker signal
"I/O3" Phase marker signal can be used with all boards other than "I/O3" board.
"I/O6" Phase marker signal can be used with “I/O4” and ”I/O5” boards.



*8 Transient can be measured at a speed up to 15,000 rpm.
※ As this input circuit is not single-ended type, isolation between the channels is not provided..

OUTPUT

Transducer power supply :
Piezoelectric transducer : +24 VDC/4 mA (constant current)

SYNCHRONOUS WAVEFORM DATA ACQUISITION

Spectral resolution	: 400/800/1600 line
Number of samples	: 32/64/128 samples per revolution
Sampling frequency	: Up to 51.2 kHz
Data acquisition interval	: 10 sec (minimum)

ASYNCHRONOUS WAVEFORM DATA ACQUISITION

Spectral resolution	: 400/800/1600 line
Sampling frequency	: Up to 51.2 kHz
Data acquisition interval	: 10 sec (minimum)

TREND DATA ACQUISITION

Data acquisition item (vibration signal input)
: Please refer to the table below
Data acquisition item (process signal input) *9
: Measurement value
Acquisition interval : 1 second (min. under normal condition),
or 0.1 second (for 20 seconds before alarm, for 10 seconds after alarm under high-speed acquisition mode)

*9 Under process signal measurement mode, the data is processed by a moving average of 0.1 sec, which is equivalent to frequency response of 5 Hz (-3 dB).

Other

6H14-239 Rev.4
Issued Feb. 2015
Revised Nov. 2017

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ANALYSIS MODE

Each analysis board can be set to “Critical” mode or “BOP” mode, depending on the application. Available data varies depending on the mode.

	Critical mode	BOP mode
Application	For analysis of transient operation of large rotating machinery.	For analysis of rated rotation of balance of plant equipment.
Phase Marker	Required for synchronous sampling of input signal waveform.	Not required.
Trend data calculation method	Calculated from synchronous waveform.	Calculated from asynchronous waveform.
Available trend data.	Rotor speed GAP Amplitude (Overall,0.5X, 1X, 2X, Not-1X, nX1 to nX4[*10], fX1, fX2[*11], $S_{(p\text{-}p)\ max}$) Phase (0.5X, 1X, 2X, nX1 to nX4[*10])[*12]	Rotor speed[*13] GAP Amplitude (Overall, 0.5X, 1X, 2X, Not-1X, nX1 to nX4[*10], fX1, fX2[*11])
Available waveform data	synchronous waveform, asynchronous waveform	asynchronous waveform

*10 Vibration amplitude and phase angle at n times rotation synchronous frequency. (n = 0.01 to 10.00 in 0.01 increments)
*11 Vibration amplitude at specified frequency component (f). (f = 0.01 to 20,000.00 Hz in 0.01 Hz increments)
*12 Phase mark is available only during displacement vibration measurement.
*13 Rotor speed is provided only when phase mark input is available.

ANALYSIS ACCURACY

Vibration amplitude accuracy
: Overall, 0.5X, 1X, 2X, nX (n=0.01 to 10.00), Not-1X : ±3% Max. of F.S. at 25°C
±5% Max. of F.S. at 0°C to 45°C
(for machine speed less than 30,000 r/min)
$S_{(p\text{-}p)\ max}$: ±5% Max. of F.S. at 25°C
±7% Max. of F.S. at 0°C to 45°C

Phase accuracy : 0.5X, 1X, 2X : ±3 deg of rdg. at 25°C
±6 deg of rdg. at 0°C to 45°C

Accuracy (process signal input) [*14] : ±1% of F.S. at 25°C
±2% of F.S. at 0°C～45°C

*14 With current input, the accuracy of the standard resistor is not included.

STATUS INDICATION

POWER LED (Orange) : ON, when power is on.
ALARM LED (Red) : ON, when alarming.
COMM LED (Green) : ON, when connecting.
Flashing, when communicating

infiSYS ANALYSIS VIEW COMMUNICATION

Network : Ethernet 100Base-TX
Protocol : TCP/IP
I/O connector : RJ-45

POWER

Rated voltage : 24VDC
Power supply voltage range : 24VDC ±10%
Input terminal block : Terminal block (M4 screw)

POWER CONSUMPTION

Power consumption : 24W (Max.)

ENVIRONMENTAL CONDITION

Operating temperature : -10°C to +45°C
(The upper limit may be limited by installation angle.)
Storage temperature : -30°C to +85°C
Relative humidity : 20 to 90% RH (non-condensing, non-submerged)

INSULATION RESISTANCE

Between power supply and GND : 100 MΩ at 250 VDC

DIELECTRIC STRENGTH

Between power supply and GND : 250 VAC one minute

DIMENSIONS

Approx. 96 (W) x 224 (H) x 163 (D) mm
(Excluding the projection parts and the mount brackets)

WEIGHTS

At full load : Max. 2.5 kg (5.5lb)

ADDITIONAL SPECIFICATION CODE /TBB

Code	Accessory	Quantity (Parts Code)
/TBB	Signal input terminal block plug (12pin) FK-MCP 1,5/12-STF-3,81 (PHOENIX CONTACT)	6 pieces (7072NAN)[*15]

*15 When placing a separate order for this part, enter the part code above and specify the quantity.

RELATED SOFTWARE

VM-772B Device Config : software to configure DP-2000.
VM-773B infiSYS Analysis View : software to analyze vibration on PC.
VM-774B infiSYS Remote View : software to analyze vibration on remote PC.

⚠ WARNING
Some functions may not be available with old version.
For details, please refer to "infiSYS Family Improvement Information" (6H16-011).

Default Value

INPUT (VIBRATION)

Monitoring : Displacement vibration input
Monitor range : 0 to 100 μm p-p
Input transducer : FK-202F (non-intrinsic safety)

INPUT (PHASE MARKER)

Input Signal : RD-05A
Trigger Mode : Manual
Trigger Level : -18.0V
Hysteresis : 1.0V

ALARM

OK set point
Vibration : Disable
Phase Marker : Disable

COMMUNICATION

IP Adress : 192.168.8.200
Subnet mask : 255.255.255.0
IP Port No. : 8882

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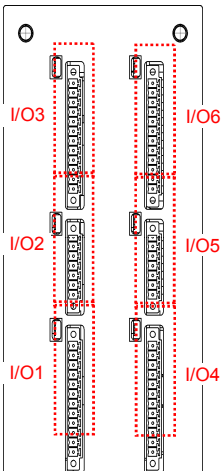
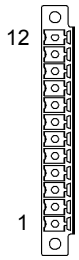
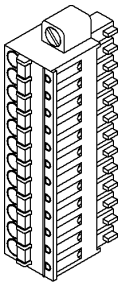
I/O Board Location and Terminal Block (Connector) Pin Assignment



Front	Terminal Block (Connector) Pin Assignment	Fitting Plug	Part Code
	12 CH4 SHIELD 11 CH4 COM 10 CH4 IN 9 CH3 SHIELD 8 CH3 COM 7 CH3 IN 6 CH2 SHIELD 5 CH2 COM 4 CH2 IN 3 CH1 SHIELD 2 CH1 COM 1 CH1 IN		7072NAN*16

*16 When placing a separate order for this part, enter the part code above and specify the quantity.
With the accessory specification code "/TBB", 6 fitting terminal block plugs will be included.

System Configuration