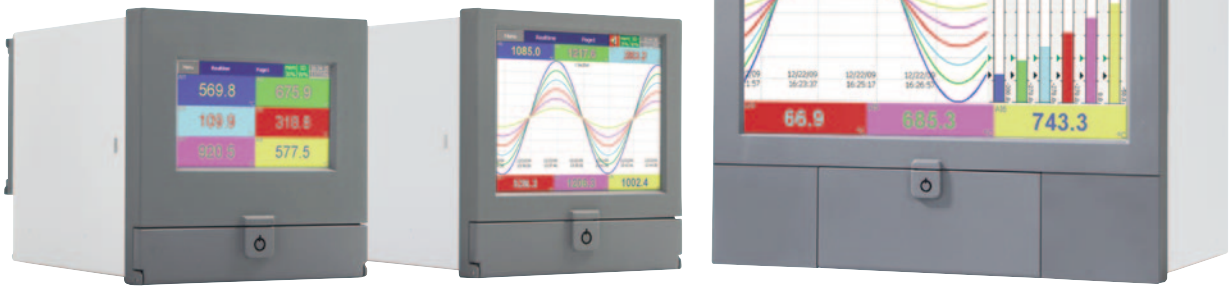
PPS Series Videographic Data Recorders

Now with Touch Screen Technology!



PPS-1000 PPS-2000 PPS-3000

Product Overview

- The PPS Series is a major advance in the market for Paperless Videographic Data Recorders incorporating Touch Screen Technology for set-up and programing.
- *The PPS Series encompasses three models:*
  - The PPS-1000 for basic 3 or 6 channel recording on a 4.3" screen
  - The PPS-2000 for up to 24 channels on a 5.6" screen
  - The PPS-3000 expandable to 48 channels on a 12.1" screen
- The PPS Series displays data in real time on the touch screen.
- The PPS saves data to internal memory that can be exported to SD memory cards or USB ports as well as over a LAN using the optional Data Acquisition Software.
- Data logging supports notes being written directly on the Touch Screen that may be saved with the data files. The data files may be started and stopped as a batch operation with additional batch lot information.
- *The Basic PC software package included at No Charge provides:*
  - Historical Viewer/Configuration capability to view, print, export and archive PPS Series data files imported via SD card or USB drive
  - Create and edit PPS configurations to be downloaded back to the recorder
- Data Aquisition Studio software combined with the Basic package provides real time access from one or more PPS units via LAN, serial or Modbus with datalogging functions at the PC.
- Optional firmware packages include the Panel Studio developement software to design custom displays including digital and analog tags and values with animation.

Design Features

- ***Touch Screen Technology***
- ***TFT high resolution color LCD***
- ***100 millisecond sample rate and data logging***
- ***High accuracy 24 bit A-D analog inputs***
- ***16 bit A-D analog outputs***
- ***Digital count inputs, maximum frequency 100 Hz***
- ***Plug & Play I/O card/modules:***
  - Analog Input - 3 or 6 per card
  - Analog Output - 6 per card
  - Digital Input - 6 per card
  - Digital/Relay Output - 6 per card
  - Combo Card - 3 Digital Inputs + 3 Relay Outputs
- ***SD Slot for internal memory expansion***
- ***(2) USB host ports for downloading data or printer connection***
- ***6.73"/171mm short panel depth***
- ***Ethernet standard with optional RS-232 or RS422/485***
- ***NEMA 4X / IP65 water resistant housing***

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PPS Series Videographic Data Recorders

PPS-2000 Front View

Front Panel Features

- *High resolution TFT LCD Color Touch Screen*
  - PPS-1000: 4.3", 480 × 272 resolution
  - PPS-2000: 5.6", 640 × 480 resolution
  - PPS-3000: 12.1", 1024 × 768 resolution
- *SD slot for external memory: 16G or 32G*
- *1st USB slot, for memory, auxillary or printer*
- *Reset - To Reset and Restore factory settings*
- *Start/Stop - To Start or Stop channel recording, or to turn the screen on or off*
- *Front Door - Key locked for security*

Back Panel Features

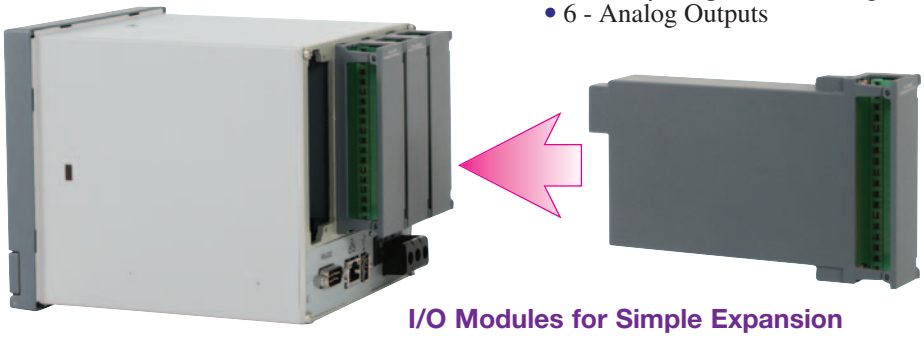
- ***Multiple slots for Input/Output modules***
  - PPS-1000 4 slots, 6 analog channels maximum
  - PPS-2000 4 slots, 24 analog channels maximum
  - PPS-3000 16 slots, 48 analog channels maximum
- ***Optional RS-232/422/485 Serial communications***
- ***Ethernet port, standard for Internet/Intranet coms***
- ***2nd USB slot for memory, auxillary or printer***
- ***Power Switch***
  - Optional for panel style mounting
  - Standard for portable style mounting
- ***Power Terminals, for input power connections***

PPS-2000 Rear View

Input / Output Modules

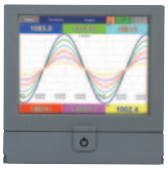
- ***Input/Output modules can be added or removed to the rear of the unit easily. The modules are locked in with screws.***

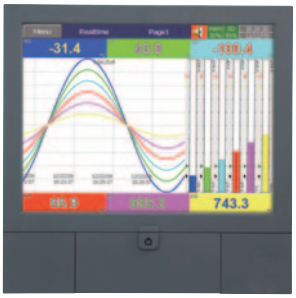
- ***Input/Output module types are:***
  - 6 - channel Analog Inputs
  - 3 - channel Analog Inputs
  - 6 - Relay Outputs, 5A 240V, NO and NC
  - 6 - Digital Inputs
  - 3 - Relay Outputs and 3 - Digital Inputs
  - 6 - Analog Outputs



I/O Modules for Simple Expansion

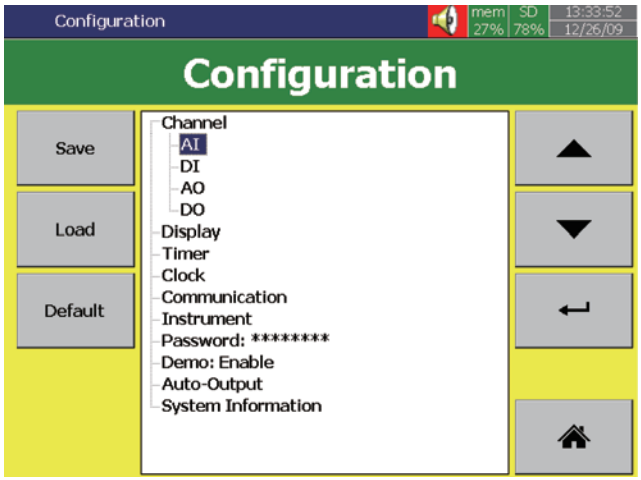
PPS Series Videographic Data Recorders



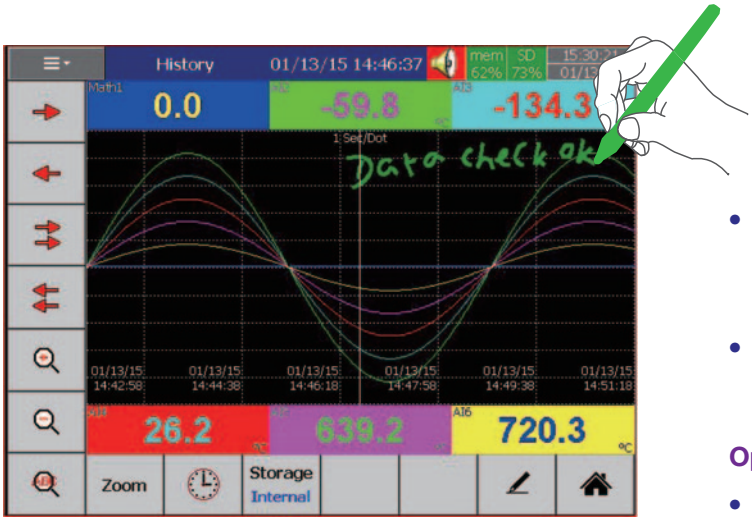


	PPS-1000	PPS-2000	PPS-3000
Analog Input Channels	3 or 6	3, 6, 12, 18, or 24	6, 12, 18, 24, 30, 36,42 or 48
Universal Analog Inputs	**Thermocouples:** J, K, T, E, B, R, S, N, L, U, P, W5, W3, LR, A1, A2, A3, M; **Linear:** mA, mV, V **RTD:** Pt50, Pt100, Pt200, Pt500, Pt1000 (α=0.00385) Pt50, Pt100 (α=0.00391) JPt50, JPt100, JPt200, JPt500, JPt1000 (α=0.003916) Cu10, (α=0.00427), Cu50, Cu100 (α=0.00426, 0.00428) Ni100, Ni200, Ni500, Ni1000 (α=0.00617)		
Sampling Rate	100mS, 24 bit Analog to Digital Converter		
Math, External Channels, FDA 21 CFR part 11	Available in optional Plus versions of the firmware.		
Display, Touch Screen	4.3" TFT Color LCD	5.6" TFT Color LCD	12.1" TFT Color LCD
Resolution	480 x 272	640 x 480	1024 x 768
Email, Screen Saver	Yes	Yes	Yes
CPU	ARM Cortex-A8, 1 GHz	ARM Cortex-A8, 1 GHz	ARM Cortex-A8, 1 GHz
Internal Flash Memory	256 MB	256 MB	256 MB
Internal RAM	256 MB	256 MB	256 MB
Ethernet	Modbus TCP/IP	Modbus TCP/IP	Modbus TCP/IP
RS-232/422/485	Optional RS-232 or RS-422/485 Modbus RTU in the rear		
SD card slot, USB	Standard SD and one USB in the front, one USB in the rear		
Pulse Input	Optional Digital Input Card for either logic or high frequency counter		
START/STOP switch	Start/Stop channel recording, and manually turn off the display		
Calibration	On site calibration or channel correction using Offset and Gain		
Multilingual	Programmable in Brazil Portuguese, Chinese (simplified and traditional), Czech, Danish, Dutch, English, French, German, Greek, Italian, Japanese, Korean, Polish, Portugese, Russian, Spanish, Thai and Turkish		
PC Software	Configuration and Historical Viewer - Standard; Real Time monitoring and Data Acquisition Studio - Optional		
Power Supply	90-250 VAC or 11 - 36 VDC		
Outer Dimensions (WxHxL)	5.67" × 5.67" × 7.44" (144 × 144 × 189mm)	5.67" × 5.67" × 7.44" (144 × 144 × 189mm)	11.34" × 11.34" × 7.44" (288 × 288 × 189mm)
Panel Mounting Depth	6.73" (171mm)	6.73" (171mm)	6.73" (171mm)
Panel Cutout	5.39" × 5.39" (137 × 137mm)	5.39" × 5.39" (137 × 137mm)	11.06" × 11.06" (281 × 281mm)
Protection Rating	NEMA 4X / IP65 front; IP20 rear		
Operating Temperature	32° to 122°F (0° to 50°C)		
Storage Temperature	-22° to 158°F (-30° to 70°C)		
Safety Standards	cURus, RoHS		

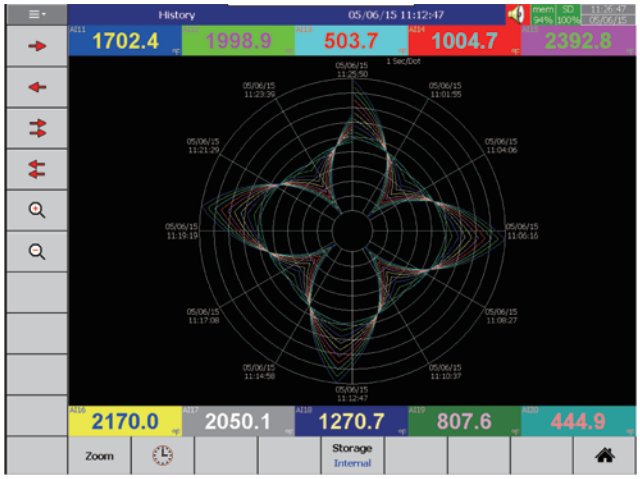
Firmware Features



Configuration in Indented Layout for easy operation



Free hand note taking, directly on the screen



Display simulates Circular Chart Recorder
(PPS-3000 only)

Standard Firmware Package

- ***AI:*** Analog Input is offered in various logging speeds of 100mS, 1, 2, 5, 10, 20, 30 Sec., 1, 2 minutes
- ***DI:*** Digital Input can be configured for Normal Logic or High Frequency Pulse
- ***AO:*** Analog Outputs can be configured in mA or Volts and it's function defined.
- ***DO:*** Digital/Relay Outputs can be enabled for process functions
- ***Display:*** Various display speeds can be set in 100mS, 1, 2, 5, 10, 20, 30, Sec., 1, 2, 10, 30 min./page, 1, 2, 4, 8, 12 hrs./page, 1 day/page
- ***Timer:*** Timer configured in Countdown, Repeat Countdown, Daily, Weekly, of Monthly base and various jobs can be defined
  - ***Clock:*** Date Style of MM/dd/yy or dd/MM/yy, Time Synchronize via Internet, and Daylight Savings Time can be defined
  - ***Communications:*** Web Server and E-mail functions
  - ***Instrument:*** Brightness adjustment & Screen Saver
- ***Password:*** If Normal Security is chosen, then one password is offered. If the high security of CFR-21 is chosen, then 9 levels of passwords can be defined
- ***Demo:*** Built-in Demonstration of the instrument's features can be activated

Optional Firmware Plus 1 Package

- Math, Counters and Totalizer functions within derived channels
- Derived Channels by Model Number:
  PPS-1000: 15 derived channels
  PPS-2000: 40 derived channels
  PPS-3000: 60 derived channels
- High frequency pulse inputs can be configured from digital inputs
- With the CFR 21 security feature enabled, the PPS Series meets the requirements for electronic data for FDA 21 CFR part 11
- External Channel Input: The PPS Series is configurable as a Master or Slave device with the number of external channels varying by Model. The External Channels require Modbus RTU protocol over either the TCP/IP Ethernet port or the optional serial RS232/485
- Data log Batch start/stop allows batch data file name, file duration, lot number and up to 3 comments to be stored as part of the file

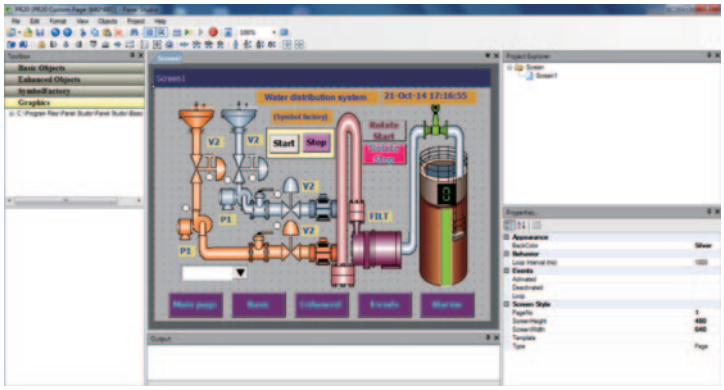
CONTINUED

Firmware Features

Continued from previous page...

Optional Firmware Plus 2 Package

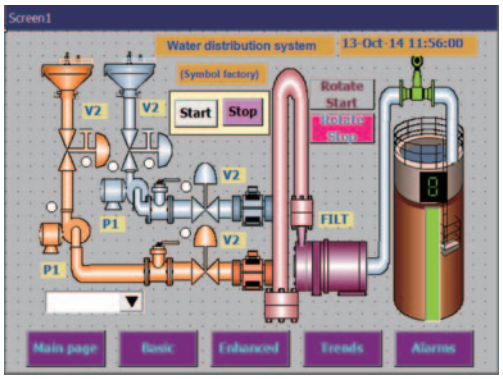
- Panel Studio development software allows the user to custom design display views that provide a graphical representation of the application including animation as well as digital and analog tags and values.
- The user can use Panel Studio to edit specific displays on the PC first and then download it onto the recorders.
- The custom edited displays will be added to the standard pages.



Create and edit the display on the PC

Optional Firmware Plus 3 Package

- This package is a combination of the Plus 1 and Plus 2 firmware features.
- It features Extended Math Functions, FDA 21 CFR part 11 compliance and Panel Studio development software.

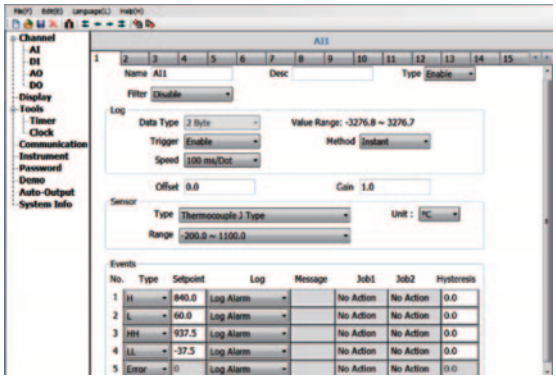


Download it into the Recorder

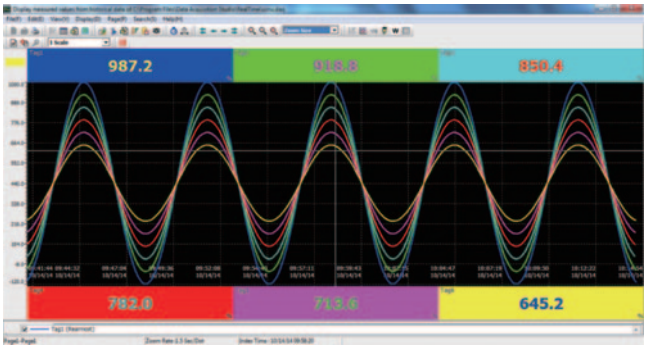
Software Features

Standard Basic Software

- ***Configuration:*** Create and edit recorder configurations including projects, analog channels, external and math channels, Events, Inputs, and Outputs, Power, etc. and download the configuration back to the recorder via LAN, SD or USB cards.
- ***Historical Viewer:*** Provides the capability to view, print, export (csv.) and archive PPS Series data files imported via LAN, SD or USB cards.

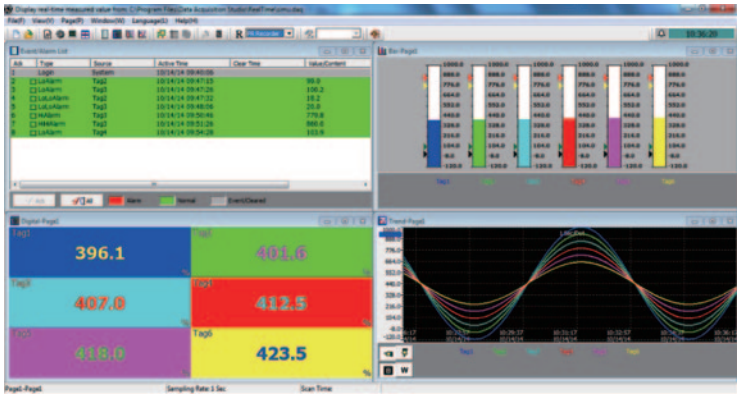


Configuring an Analog Input Channel



Historical view of multiple channels

Software Features (continued)



Real Time Viewer on the PC

Optional Extensive Software Package

- In addition to the standard Historical Viewer Configuration software, the Extensive Software Package, includes the Data Aquisition Studio to provide Real Time Access from one to multiple PPS units (2,048 tags) via LAN or serial Modbus.
- Provides data logging functions within the software in the PC.
- The software allows real time viewing of standard screen views from specific PPS recorders, to download data log files and download/upload configuration files to the recorder via the LAN or serial Modbus.
- The PPS Data Aquisition Studio is fee based and requires a hardware dongle to be inserted into one of the PC's USB drives to fully function. Without the hardware dongle, the software may be installed and run for 1-hour and then it will stop functioning.

Rear Panel Layout

PPS-1000
4 slots, up to 6 Analog inputs

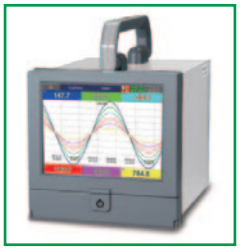
PPS-2000
4 slots, up to 24 Analog inputs

PPS-3000
16 slots, up to 48 Analog inputs

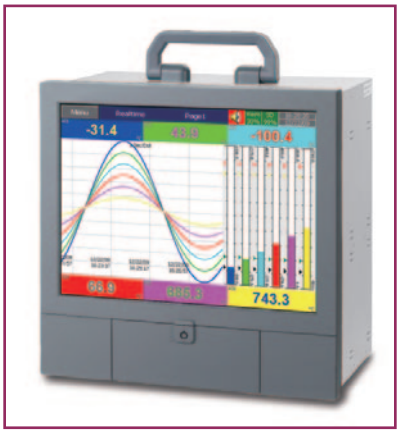
Portables

The portable version of the PPS Series is supplied with a handle, 120VAC cordset, and rear mounted Power Switch.

PPS-1000



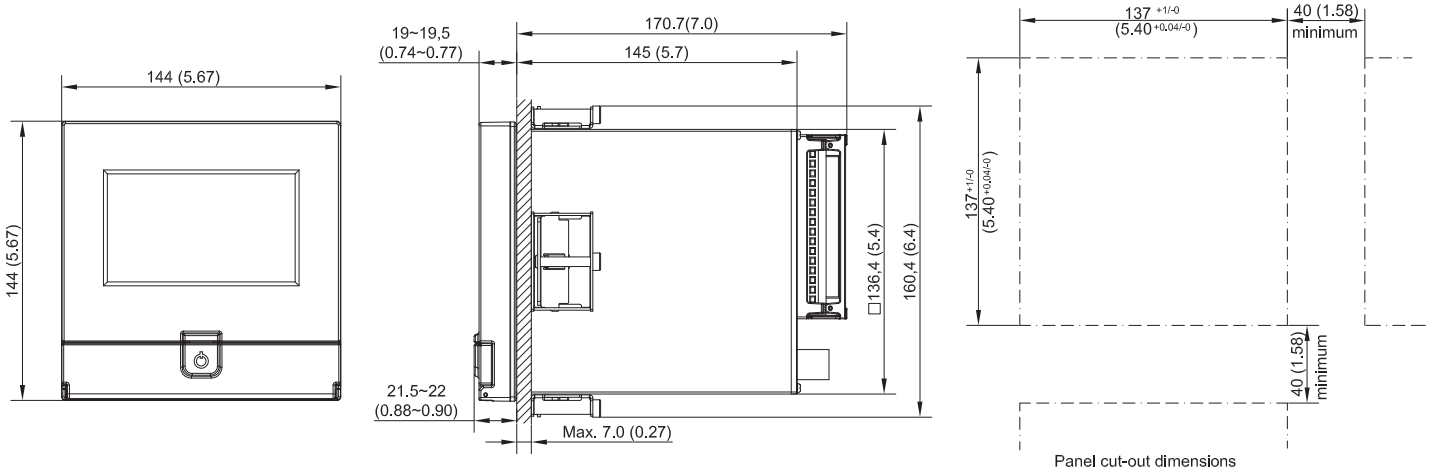
PPS-2000



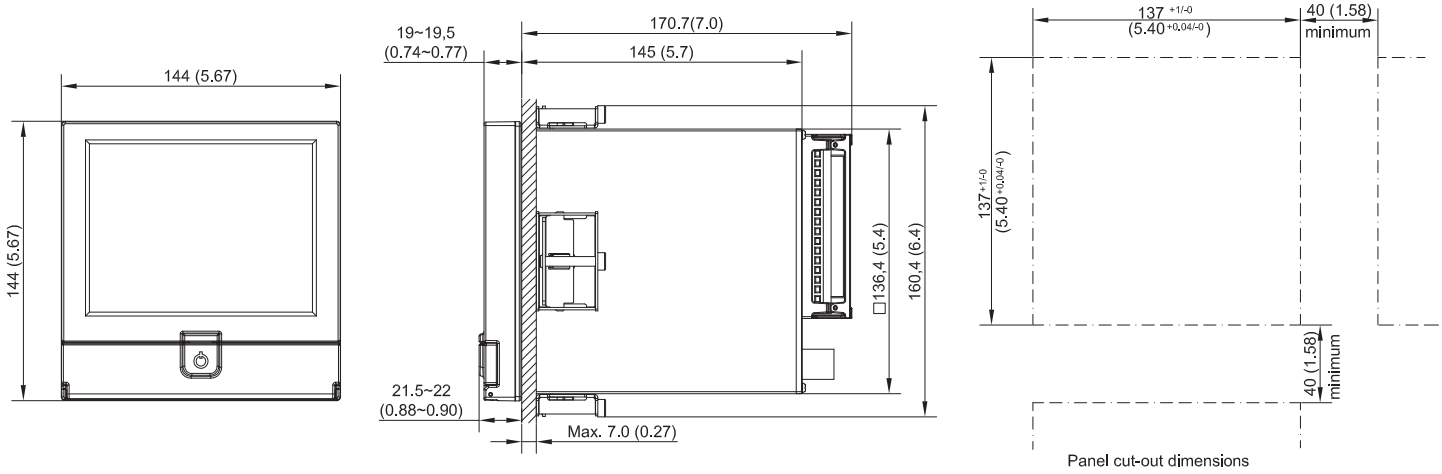
PPS-3000

Dimensional Specifications: mm (in)

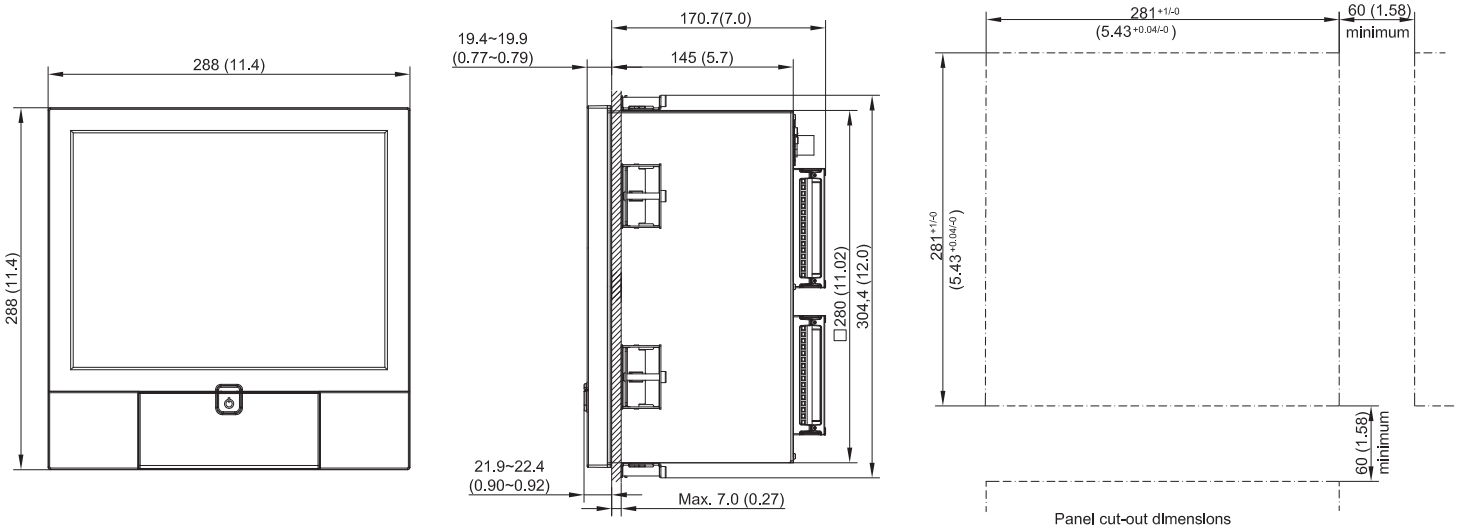
PPS-1000



PPS-2000



PPS-3000



PPS-1000 Ordering Information

Ordering Code: PPS-1000 – [1] [2] [3] [4] [5] [6] [7] [8]

Analog Inputs *BOX 1*
03 = 3 Analog Input Channels

I/O Options *BOX 2*
0 = None
6 = 3 Relay Outputs and 3 Digital Inputs

Analog Inputs *BOX 1*
06 = 6 Analog input Channels

I/O Options *BOX 2*
0 = None
1 = 6 Relay Outputs
3 = 6 Digital Inputs
6 = 3 Relay Outputs and 3 Digital Inputs
7 = 6 Relay Outputs and 6 Digital Inputs

PC Software *BOX 6*
1 = Basic software includes Historical Viewer and Configuration
2 = Extensive software Data Acquiaition Studio includes RealTime Viewer & Historical Viewer and Configuration

Mounting Types, Power Cord & Switch *BOX 7*
0 = Panelt Mount, no power switch, no power cord
1 = Panel Mount, with power switch, no power cord
2 = Portable style, with UL/CSA power cord and switch
3 = Portable style, with VDE power cord and switch
4 = Portable style, with SAA power cord and switch
5 = Portable style, with BS power cord and switch

Power *BOX 3*
A = 90 - 250 VAC, 50 - 60 Hz
D = 11 - 36 VDC

Firmware *BOX 5*
0 = Standard version
1 = Plus version 1 with extra math, external channels, batch and FDA 21 CFR part 11
2 = Plus version 2 with custom edited display and editing software Panel Studio
3 = Plus version 3 includes Plus versions 1 and 2

Data Communications *BOX 4*
0 = Standard Ethernet
1 = Ethernet and RS-232
2 = Ethernet RS-422/485

Removable Memory *BOX 8*
00 = None
S1 = 16G SD Card
S2 = 32G SD Card

Ordering Information

Videographic Data Recorders are offered with the options listed in the worksheet. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned, or choose one of the basic systems.

Standard lead time is stock to 3 weeks.

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Basic Systems (Part Number & Description)

PPS10001 3 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS10002 6 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS10003 3 Analog Input Channels, 3 Digital Input and 3 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS10004 6 Analog Input Channels, 3 Digital Input and 3 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

Auxillary I/O Cards/Modules and Accessories (Part Number & Description)

PPS90001 6 Analog Input Channels

PPS90002 3 Analog Input Channels

PPS90003 6 Relay Outputs

PPS90004 6 Digital Inputs

PPS90005 3 Relay Outputs and 3 Digital Inputs

PPS90006 6 Analog Outputs

PPS90050 Spare Door Key

PPS–2000 Ordering Information

Ordering Code: PPS-2000 – [1][2][3][4][5][6][7][8]

Analog Inputs *BOX 1*
03 = 3 Analog Input Channels

I/O Options *BOX 2*
0 = None
6 = 3 Relay Outputs and 3 Digital Inputs
C = 3 Relay Outputs and 3 Digital Inputs and 6 Analog Outputs

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Analog Inputs *BOX 1*
06 = 6 Analog input Channels

I/O Options *BOX 2*
0 = None
1 = 6 Relay Outputs
3 = 6 Digital Inputs
5 = 6 Analog Outputs
6 = 3 Relay Outputs and 3 Digital Inputs
7 = 6 Relay Outputs and 6 Digital Inputs
A = 6 Relay Outputs and 6 Analog Outpus
B = 6 Digital Inputs and 6 Analog Outputs
C = 3 Relay Outputs and 3 Digital Inputs and 6 Analog Outputs
D = 6 Relay Outputs and 6 Digital Inputs and 6 Analog Outputs

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Analog Inputs *BOX 1*
12 = 12 Analog input Channels

I/O Options *BOX 2*
0 = None
1 = 6 Relay Outputs
2 = 12 Relay Outputs
3 = 6 Digital Inputs
4 = 12 Digital Outputs
5 = 6 Analog Outputs
6 = 3 Relay Outputs and 3 Digital Inputs
7 = 6 Relay Outputs and 6 Digital Inputs
8 = 9 Relay Outputs and 3 Digital Inputs
9 = 3 Relay Outputs and 9 Digital Inputs
A = 6 Relay Outputs and 6 Analog Outputs
B = 6 Digital Inputs and 6 Analog Outputs
C = 3 Relay Outputs and 3 Digital Inputs and 6 Analog Outputs

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Analog Inputs *BOX 1*
18 = 18 Analog input Channels

I/O Options *BOX 2*
0 = None
1 = 6 Relay Outputs
3 = 6 Digital Inputs
5 = 6 Analog Outputs
6 = 3 Relay Outputs and 3 Digital Inputs

Analog Inputs *BOX 1*
24 = 24 Analog input Channels

I/O Options *BOX 2*
0 = None

Power *BOX 3*
A = 90 - 250 VAC, 50 - 60 Hz
D = 11 - 36 VDC

Data Communications *BOX 4*
0 = Standard Ethernet
1 = Ethernet and RS-232
2 = Ethernet RS-422/485

Firmware *BOX 5*
0 = Standard version
1 = Plus version 1 with extra math, external channels, batch and FDA 21 CFR part 11
2 = Plus version 2 with custom edited display and editing software Panel Studio
3 = Plus version 3 includes Plus versions 1 and 2

PC Software *BOX 6*
1 = Basic software includes Historical Viewer and Configuration
2 = Extensive software Data Acquiaition Studio includes RealTime Viewer & Historical Viewer and Configuration

Mounting Types, Power Cord & Switch *BOX 7*
0 = Panelt Mount, no power switch, no power cord
1 = Panel Mount, with power switch, no power cord
2 = Portable style, with UL/CSA power cord and switch
3 = Portable style, with VDE power cord and switch
4 = Portable style, with SAA power cord and switch
5 = Portable style, with BS power cord and switch

Removable Memory *BOX 8*
00 = None
S1 = 16G SD Card
S2 = 32G SD Card

Ordering Information

Videographic Data Recorders are offered with the options listed in the worksheet. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned, or choose one of the basic systems.

Standard lead time is stock to 3 weeks.

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Basic Systems *(Part Number & Description)*

PPS20003 12 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS20004 18 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS20005 12 Analog Input Channels, 6 Digital Input and 6 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS20006 18 Analog Input Channels, 3 Digital Input and 3 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

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TEMPCO Since 1972

PPS Series Videographic Data Recorders

PPS-3000 Ordering Information

Ordering Code: PPS-3000 – [1][2][3][4][5][6][7][8][9][10]

Analog Inputs *BOX 1*
06 = 6 Analog Input Channels
12 = 12 Analog Input Channels
18 = 18 Analog Input Channels
24 = 24 Analog Input Channels
30 = 30 Analog Input Channels
36 = 36 Analog Input Channels
42 = 42 Analog Input Channels
48 = 48 Analog Input Channels

Relay Outputs *BOX 2*
0 = None
1 = 6 Output Relays
2 = 12 Output Relays
3 = 18 Output Relays
4 = 24 Output Relays

Digital Inputs *BOX 3*
0 = None
1 = 6 Digital Inputs
2 = 12 Digital Inputs
3 = 18 Digital Inputs

Analog Outputs *BOX 4*
0 = None
1 = 6 Analog Outputs
2 = 12 Analog Outputs

Power *BOX 5*
A = 90 - 250 VAC, 50 - 60 Hz
D = 11 - 36 VDC

Data Communications *BOX 6*
0 = Standard Ethernet
1 = Ethernet and RS-232
2 = Ethernet RS-422/485

Firmware *BOX 7*
0 = Standard version
1 = Plus version 1 with extra math, external channels, batch and FDA 21 CFR part 11
2 = Plus version 2 with custom edited display and editing software Panel Studio
3 = Plus version 3 includes Plus versions 1 and 2

PC Software *BOX 8*
1 = Basic software includes Historical Viewer and Configuration
2 = Extensive software Data Acquiaition Studio includes RealTime Viewer & Historical Viewer and Configuration

Mounting Types, Power Cord & Switch *BOX 9*
0 = Panelt Mount, no power switch, no power cord
1 = Panel Mount, with power switch, no power cord
2 = Portable style, with UL/CSA power cord and switch
3 = Portable style, with VDE power cord and switch
4 = Portable style, with SAA power cord and switch
5 = Portable style, with BS power cord and switch

Removable Memory *BOX 10*
00 = None
S1 = 16G SD Card
S2 = 32G SD Card

Ordering Information

Videographic Data Recorders are offered with the options listed in the worksheet. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned, or choose one of the basic systems.

Standard lead time is stock to 3 weeks.

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Basic Systems (Part Number & Description)

PPS30001 24 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS30002 36 Analog Input Channels, no input/output, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS30003 24 Analog Input Channels, 6 Digital Input and 6 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

PPS30004 36 Analog Input Channels, 6 Digital Input and 6 Relay Outputs, 90-250VAC Power Input, Standard Ethernet, Standard Firmware, Basic Software, Panel Mount, 16GB SD card

RCR-600 Chart Recorder

Since 1972

RCR-600 6-Point 100 mm Chart Recorder

Design Features

- *6-Channel dotting recorder*
- *100 mm chart paper size*
- *144 × 144 mm metal housing*
- *Weighs only 3.3 lb. (1.5 Kg)*
- *NEMA 4 / IP65 Dustproof water resistant housing*
- *Universal settable input and range*
- *Optional 6 alarm relay outputs*
- *Optional 3 digital inputs*
- *Optional communication interface for RS-232*
- *Agency approvals:*

Standard Functions

Function	Description
Analog Recording	Makes analog recording with 6 colored dots.
Digital Display	Indicates channel number, process variable, data channel and alarm setpoint.
Logging Print	Prints date, time, scaling, chart speed, process variable, and engineering unit at a programmed interval.
List Print	Prints chart speed, sensor type, measurement range, engineering unit, alarm setting value comment, printing description, logging print and on/off zone.
Affix Print	Prints channel number by the analog recording.
Dot Print Skip	Skips recording of an unused channel.
Programming	Programs chart speed, alarm setting value, logging, dot point skip, date and time.
Memory	A built-in lithium battery protects the clock function backup.
Alarm	Sets 2 types–high and low–per channel for a total of 4 levels.
Clock	Indicates year, month, day, hour and minute.
Self Diagnostics	Indicates "Error" and code when there is a fault.

Function	Description
Open Input Indication	Sets indicator at over 100% or 0% for an input.
Tag Number	Sets a tag number by 7 figures every channel.
Copy Function	Copies a channel setup.
Setting Input Offset	Setting input offset is possible for every channel.
Zone Recording	Specifies a recording area for every channel to separate into tracks.
Alarm Print	Prints occurrence time, occurrence channel, setting number, and alarm type in purple at occurrence of alarm.
Alarm Recovery Print	Prints recovery time, recovery channel, setting number, and alarm type in purple at recovering of an alarm.
Alarm Hysteresis	Sets an alarm hysteresis width 0% full scale or 0.5% full scale.

Specifications & Features – RCR-600 Chart Recorder

DESIGN SPECIFICATIONS

Input Signal
Thermocouple: J, K, T, E, B, S, R, C, N, U, L, Au-Fe
RTD: PT100, JPT100
DC Voltage: ±10mV, 0-20mV, 0-50mV, ±1V, 1-5V
Current: 4-20 mA dc, with external 250W shunt resistor

Performance
Recording Width: 100 mm calibrated
Recording Accuracy: ±0.2%; ±1 digit maximum for display/printing
Input Impedance: mV/tc input - 10MΩ
Vdc input - 1MΩ, mA input - 100Ω
Common Mode Rejection Ratio (CMRR): 140 db
Normal Mode Rejection Ratio (NMRR): 60 db
Dielectric Strength: Power input/ground - 1500 Vac
Input/ground - 500 Vac
Vibration Resistance: 1 m/s² maximum 10 - 60 Hz
Shock Resistance: 2 m/s² maximum
Chart Feed Accuracy: ±0.1% maximum
Clock Precision: ±50 ppm

Power Source
Power Input: 85 to 264 Vac
Frequency: 45 to 65 Hz
Power Consumption: 30 VA

Recording and Printing
Recording: Raster-scan printing
Printing: Dotting with 6-color ribbon
Dot Print Interval: 10.0 second / 6 channel maximum
Chart Paper: Length - 52.5 ft. (16m)
Chart Speed: 28 speeds, user selectable, from 10-1500 mm/hr
Printing Colors: Purple, red, green, blue, brown, black

Alarm — Input/Output
Outputs: 1 relay drive per setting, up to 6 relays
250 Vac 3A/ 30Vdc 3A/ 125Vdc 0.5A
Quantity per Channel: 4
Digital Inputs: Maximum of 3

Normal Operating Conditions
Ambient Temperature: 32° to 122°F (0 to 50°C)
Relative Humidity: 35 to 85% non-condensing

Communications
Standard: RS-232C
Optional: RS-485 (Modbus RTU)

Structure
Dimensions: 144 × 144 × 175 mm (5.7" × 5.7" × 6.9")
Mounting: Panel mount, allowable inclination – 30°
Panel Cutout: 138 × 138 mm (5.43" × 5.43")

Ordering Code: RCR-600 - [1] [2] [3]

Digital input / output *BOX 1*
0 = None
1 = 6 Relay output
2 = 3 Digital inputs
3 = 3 Digital inputs + 6 relay outputs

Data Communications *BOX 3*
0 = RS - 232C Interface
1 = RS - 485 Interface

Out of Paper Sensor *BOX 2*
0 = No
1 = Yes

Ordering Information
The **RCR-600** is offered with the options listed in the worksheet. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned, or choose one of the basic systems.

Standard lead time is stock to 4 weeks.

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Basic Systems

Part Number	Description
RCR40001	6-point dotting, 6 relay/digital outputs, no out of paper sensor, with RS-232C data interface
RCR40002	6-point dotting, no relay/digital outputs, no out of paper sensor, with RS-232C data interface
RCR40003	6-point dotting, 6 relay/digital outputs & 3 digital inputs, no out of paper sensor, with RS-232C data interface
RCR40005	6-point dotting, 6 relay outputs, has out of paper sensor, with RS-232C data interface

Accessories – RCR-600

Part Number	Description
RCA40901	Chart paper – Z fold style, 52.5 ft. (16 m)
RCA40902	Replacement Multi-Color Ribbon
RCA40903	Precision Shunt Resistor, 250W