

DPR100 A/B Analogue Scales Pen and Multipoint Specifications

EN01-6030 February 2011



Description

The DPR 100 is a low cost, high functionality 100 mm chart-width microprocessor-based recorder that has been designed for general purpose applications worldwide. Its design meets the requirements of quality, ruggedness, flexibility, ease of use and optimum price/functionality combination. The DPR100 exists in two versions:

- DPR100 A, a 1 to 3 continuous pen recorder ;
- DPR100B, a 3 or 6 channel multipoint recorder

The DPR100 has been designed for applications in the metal, glass, ceramics and utilities industries, as well as for the new and fast growing markets related to:

- Environmental monitoring
- Health and sanitation
- Food processing
- Pilot plants and laboratories

Main Features

- Microprocessor-based.
- 1, 2 or 3 pens, or 3 or 6 channels multipoint.
- 100 mm chart width (DIN 16230).
- 0.25% accuracy full scale (IEC 873).
- Analogue displays with a wide selection of ranges and scales.
- Fully configurable universal inputs (T/C, RTD, High level).
- Roll or fan fold chart paper.
- Chart documented with date, time, range, engineering unit, chart speed, identification number, alarm set-points and events.
- Up to 6 alarm relay outputs (Pen:2 alarm set-points per pen, Mpt:1 alarm set-point per channel)
- Up to 2 optional logic inputs for event recording, print inhibit and change speed.



DPR100 B Analogue Scales 1 to 3 continuous pens



DPR100 A Analogue Scales 3 or 6 channel multipoint

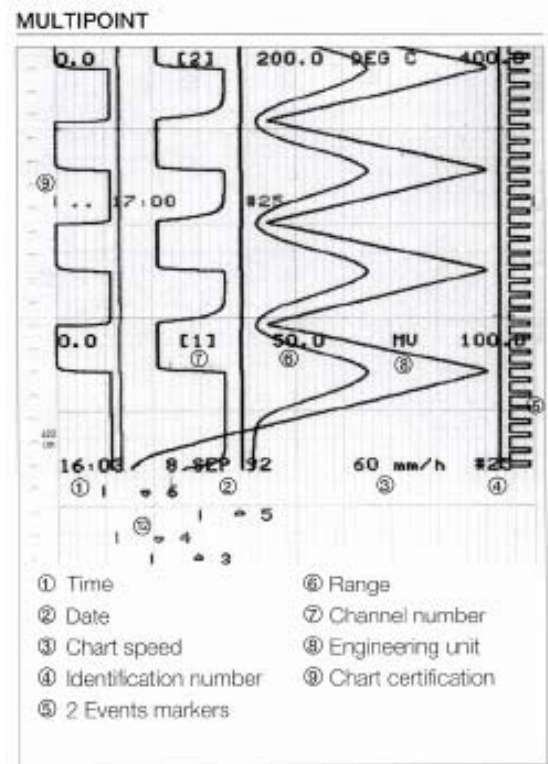
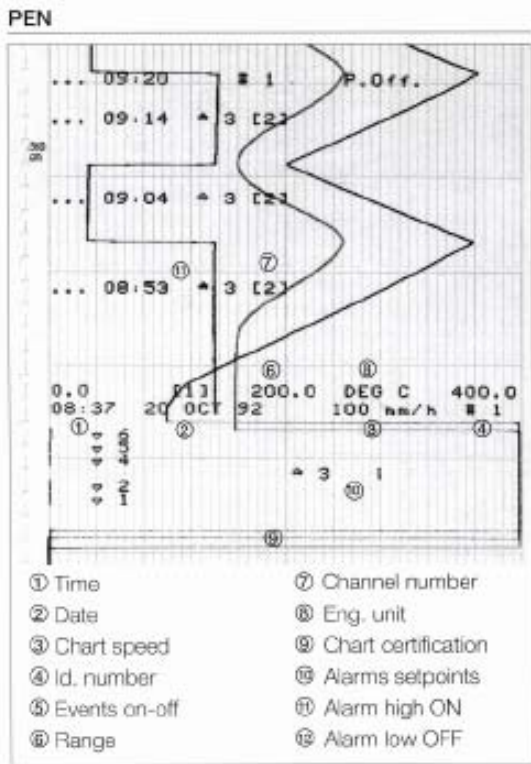
- Non-volatile memory.
- 2 configurable chart speeds (Pen: 10 to 6000 mm/h; Mpt : 10 to 1500 mm/h).
- Simplified product configuration with prompts printed on the chart.
- Full product configuration by PC software connected by a front jack connector.
- Product calibration to certify input sensor : zero, span adjustments per channel.
- Universal power supply : 90 to 264 VAC 50/60 Hz, 24 or 48 AC/DC.
- IP54 front protection (IEC 529)
- Permanent operation up to 60 °C (140°F) with chart roll, 50°C (120°F) with fanfold,
- Compact dimensions: 144 x 144 mm x 245 mm (5.67" x 5.67" x 9.7")

Options

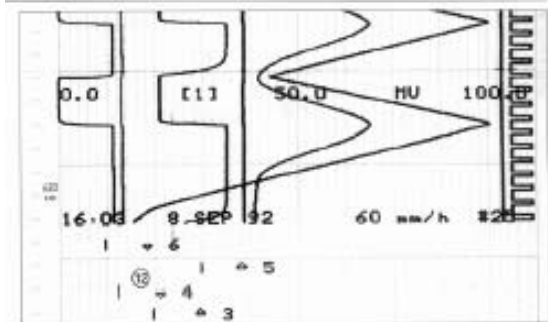
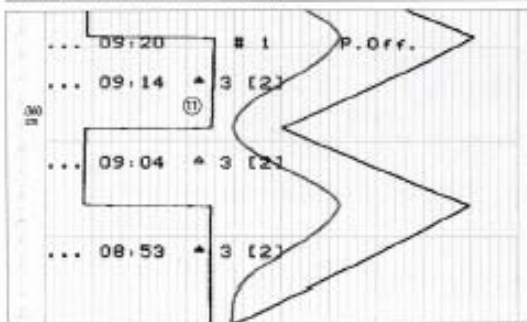
- Illuminated chart
- Key lock
- Rear terminal cover
- 24 Vdc 50 mA max. to supply 3 transmitters
- Pen offset compensation
- 2 logic inputs
- 2 or 6 alarms output
- Portable unit

Clear and Fully Documented Chart - DPR100 A/B

When roll paper is used, at any time more than 90 mm (3.54") of chart is visible. This corresponds to 4 ½ hours at 20 mm/h (0.79 in/h). When fan folder is used, 35 to 80 mm (1.4 to 3.1") of chart is visible.



Alarms are indicated clearly.



High Printing Performance - DPR100 A/B**DPR100 A Pen Recorder: Writing Speed**

Chart Speed		Chart documentation
Up to 700 mm/hr	Up to 28 in/hr	Chart fully documented
700 to 1000 mm/hr	28 to 40 in/hr	Alarm messages but no chart scales
1000 to 6000 mm/hr	40 to 240 in/hr	Traces only

DPR100 B Multipoint Recorder: Writing Speed

#Inputs (See Note 1)	Continuous traces in colour with full chart documentation mm/hr (in/hr)	Dotted traces in colour with full chart documentation	Dotted traces in colour without chart range markings. Alarm messages are printed.
1	10 to 1200 (0.5 to 48)	-	1200 to 1500 (48 to 60)
2	10 to 925 (0.5 to 37)	925 to 1000 (37 to 40)	1000 TO 1500 (40 TO 60)
3	10 to 775 (0.5 to 31)	775 to 1000 (31 to 40)	1000 TO 1500 (40 TO 60)
4	10 to 650 (0.5 to 26)	650 to 1000 (26 to 40)	1000 TO 1500 (40 TO 60)
5	10 to 550 (0.5 to 22)	550 to 1000 (22 to 40)	1000 TO 1500 (40 TO 60)
6	10 to 475 (0.5 to 19)	475 to 1000 (19 to 40)	1000 TO 1500 (40 TO 60)
7	10 to 400 (0.5 to 16)	400 to 1000 (16 to 40)	1000 TO 1500 (40 TO 60)
8	10 to 350 (0.5 to 14)	350 to 1000 (14 to 40)	1000 TO 1500 (40 TO 60)

Note: Number of traces: up to 6 analogue inputs and 4 digital event traces.

Easy to Install, Easy to Use, Easy to Maintain - DPR100 A/B

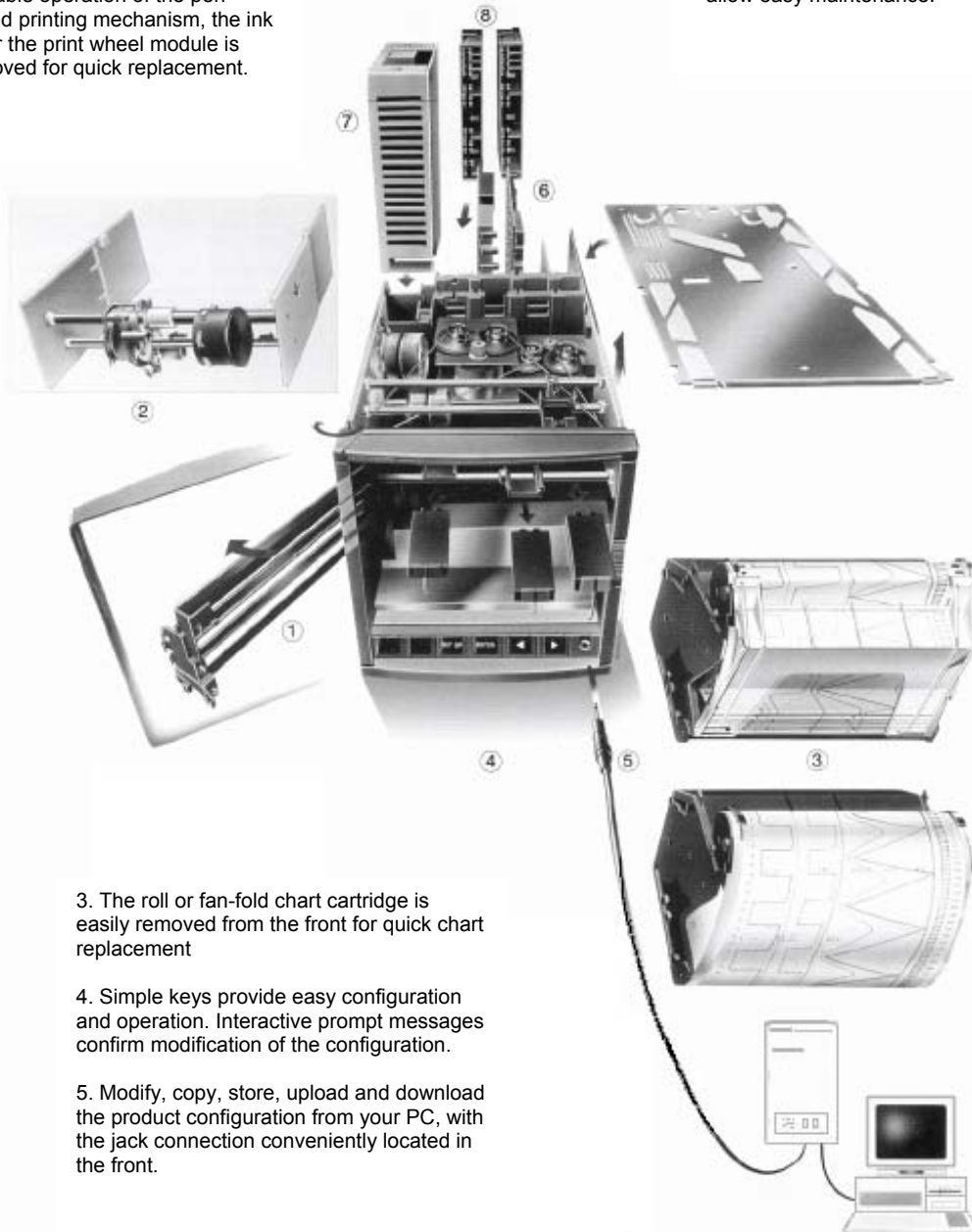
1. Process data is clearly displayed on analogue linear scales. Each "thin line" index displays precise values in colours that are visible up to 5 meters from the recorder.

2. The compact pen carriage module and high quality servo-motor chart drive ensure reliable operation of the pen carriage and printing mechanism, the ink cartridge or the print wheel module is easily removed for quick replacement.

6. The universal input card module with 2 logic and 3 analogue inputs reduces configuration time.

7. The universal power supply accepts virtually any AC or DC voltage.

8. The plug-in rear terminal blocks allow easy maintenance.



DPR100 Functional Specifications

Technical Data- DPR100 A/B																										
<p>Analogue inputs</p> <p>DPR100 A pen recorder</p> <p>DPR100 B multipoint recorder</p> <p>Signal Source</p> <p>Field calibration</p> <p>Burnout</p> <p>Scanning time</p> <p>Input impedance</p> <p>Stray rejection</p>	<p>1,2 or 3 continuous traces. Pen 1 also prints all chart documentation</p> <p>3 or 6 channels. Inputs are scanned by relays and individually configurable to any listed actuation.</p> <p>Thermocouple with individual cold junction compensation</p> <p>Line resistance up to 1000 ohms T/C, mV, mA, V</p> <p>RTD Pt 100 3-wire connections, lead resistance per wire 40 Ω balanced</p> <p>A channel field calibration – 0% and 100 % span – may be made to certify input sensor loop.</p> <p>T/C, mV, Volt, factory set up to upscale (configurable to downscale or none)</p> <p>RTD : inherent upscale.</p> <p>mA : inherent downscale</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3"></th> <th colspan="2" style="text-align: center;">Input Type</th> </tr> <tr> <th style="text-align: center;">Chart Speed</th> <th style="text-align: center;">MV, V, mA</th> <th style="text-align: center;">T/C, RTD</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">at 10-60 mm/h (0.5 to 2.4 in/hr)</td> <td style="text-align: center;">330 ms</td> <td style="text-align: center;">2 sec</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">at 60-300 mm/h (2.4 to 12 in/hr)</td> <td style="text-align: center;">330 ms</td> <td style="text-align: center;">1 sec</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">at > 300 mm/h (>12 in/hr)</td> <td style="text-align: center;">330 ms</td> <td style="text-align: center;">330 ms</td> <td colspan="2"></td> </tr> </tbody> </table> <p>Mpt : 5 seconds for 6 channels</p> <p>10 Mohm for T/C, mV inputs.</p> <p>>1 Mohm for volt inputs</p> <p>Series mode ≥60 db.</p> <p>Common mode at 250 V AC ≥130 db.</p>				Input Type		Chart Speed	MV, V, mA	T/C, RTD			at 10-60 mm/h (0.5 to 2.4 in/hr)	330 ms	2 sec			at 60-300 mm/h (2.4 to 12 in/hr)	330 ms	1 sec			at > 300 mm/h (>12 in/hr)	330 ms	330 ms		
			Input Type																							
Chart Speed	MV, V, mA	T/C, RTD																								
at 10-60 mm/h (0.5 to 2.4 in/hr)	330 ms	2 sec																								
at 60-300 mm/h (2.4 to 12 in/hr)	330 ms	1 sec																								
at > 300 mm/h (>12 in/hr)	330 ms	330 ms																								
<p>Logic inputs (option)</p> <p>Actions</p>	<p>Up to 2-dry contact inputs (1.5 mA – 12 Vdc)</p> <p>Change chart speed 1 to speed 2</p> <p>Print inhibit</p> <p>Event marking :</p> <p>Pen : Pen 1 used as operation marker on the right side of the chart</p> <p>Multipoint : 2 traces maximum on the right side of the chart (L1 = purple, L2 = red)</p>																									
<p>Scales</p> <p>Pen</p> <p>Multipoint</p>	<p>1 analogue scale per pen in accordance with the input range configuration</p> <p>1 analogue scale, 0 to 100 linear</p>																									
<p>Recording span</p> <p>Scaling</p> <p>Pen offset</p> <p>Pen carriage speed</p>	<p>Per input, an analogue scale is printed on the chart with the engineering unit</p> <p>Each input can be configured differently</p> <p>Distance between pens = 2 mm (0.08 in.)</p> <p>Chart definition: 1 step = 0.2 mm (0.008 in.)</p> <p>1 second full scale</p>																									
<p>Chart length</p>	<p>Fan-fold 18 m (59 ft) / Roll 24 m (79 ft)</p>																									

Technical data - DPR100 A/B	
Chart speed Speed setting Stepping chart motor	1 or 2 chart speeds, fully configurable, selected by a logic input, Speed 1 : fully adjustable per step of 1 mm/h (0.04in/hr), within limit Speed 2 : choice as per the model selection guide Pen: 10 to 6000 mm/h (0.5 to 240"/h). Mpt : 10 to 1500 mm/h (0.5 to 60"/h). Resolution 0.12 mm (0.005 in)
Alarms (option) Pen 1,2,3 or Mpt 3 CH Mpt (6 CH) Hysteresis Outputs Rating contact	2 alarm set-points, per channel, (factory set* 1 low, 1 high) 1 alarm set-point per channel, (factory set* high) 0.5% to 99% of Scale (Factory Set at 0.5%) Up to 6 alarm relays output contacts. 1 SPST normally closed contact (may be configured into normally open contact) 2 A, 250 VAC on resistive loads. * other alarm selections configured using the PC configuration software.
Power supply To transmitters Power consumption	100 to 240 VAC, 50/60 Hz or 24 or 48 VAC/DC (+/- 10% nominal) 24 VDC, 50 mA max. (optional) 3 pens & Mpt : 30 W max.
Clock timer Format Power interruption Accuracy	Year, month, hour, minute can be set Battery backed (10 years time, 3 years off power) $\pm 10^{-5}$
Packaging Weight Front face Depth Front window Front protection Lock Cut out Construction Optional	Pen & Mpt : 3.5 kg (7.7lbs) 144 x 144 mm (5.67" x 5.67") according to DIN 43718 245 mm (9.7") behind panel, including terminals and line protection cover Acrylic IP 54 (IEC 529) Latch or key (DIN 43882-N) DIN 138 X 138 mm (5.43" x 5.43") Silicon-free Chart illumination Rear terminal cover
Mounting	Panel mounting $\pm 30^\circ$ from horizontal (DIN 43834)
Wiring	Rear screw terminals. Terminal modules are plugged on the instrument
Writing Pen Multipoint	1 cartridge per pen, fibre tip, 1400 m (4500ft) of trace per colour (blue, red, green) 1 print wheel, 6 colours, 250m (820ft) of trace per colour (purple, red, black green, blue, brown)
Noise immunity	This product is in conformity with the protection requirements of the following European Council Directives: <ul style="list-style-type: none"> • 73/23/EEC, the Low Voltage Directive and 89/336/EEC, the EMC Directive. Conformity of this product with any other "CE Mark" Directive(s) shall not be assumed. • EMC Classification: EN 50081-2-1993 Electromagnetic Compatibility – General Emission Standard, Part 2: Industrial Environment. • EN 50082-2-1995 Electromagnetic Compatibility – General Immunity Standard, Part 2: Industrial Environment.

Technical data - DPR100 A/B	
Safety protection	Complies with EN61010-1 and UL 3121 for process control instrumentation. Pollution Degree 2. Installation Category II
Electrical insulation Input to input Input to ground Input to line voltage Line voltage to ground Alarm relay to ground Logic input to ground	Test voltage 350 VAC for 1 min (except for RTD input) or 280 VAC with option State Relay Test voltage 1.5 kV AC for 1 minute Test voltage 2.3 kV AC for 1 minute Test voltage 2.3 kV AC for 1 minute Test voltage 2.3 kV AC for 1 minute Test voltage 350 V AC for 1 minute
Temperature Ambient Storage	0 to 60°C (32 to 140°F) – Roll chart, 0-50°C (32 to 120°F) – Fan fold -40 to 70°C (-40 to +160°F)
Humidity Roll Fan-fold	10 to 90% RH non-condensing 15 to 80% RH non-condensing
Vibrations	Frequency 10 to 60 Hz, amplitude 0.07 mm; 60 to 150 Hz, acceleration 1 g

Accuracy - DPR100 A/B			
Reference conditions Temperature Humidity Line voltage nominal Source resistance Series mode Common mode Frequency nominal	20 °C ± 2 °C (68 °F ± 3 °F) 65 % RH ± 5 % RH ± 1 % 0 ohms 0 V 0 V ± 1 %		
Accuracy	0.25% of total span (IEC 873)		
Rated limits and associated drifts	Parameter	Rated limits	Influence on accuracy
	Temperature	0 to 50°C (32 to 120°F)	0.1% per 10°C Cold junction 0.3°C/10°C
	Supply voltage	85 to 264 V AC	No influence
	Source resistance	T/C, mV RTD	6 micro V per 100Ω of line resistance 1000Ω mm 0.1°C per Ω in each wire balanced leads 40Ω max.
	Humidity	10 to 90% RH at 25°C	0.1 % max.
	Long-term stability		0.1 % per year
	Vibrations	2.5 mm (0.1") at 0 to 14 Hz 1 g at 14 to 250 Hz	
Extreme conditions:			
Operating Temperature Humidity	0 to 60°C (32 to 140°F) 10 to 90% RH non-condensing		
Storage Temperature Humidity	-40 to +70°C (-40 to 158°F) 5 to 95% RH non-condensing		

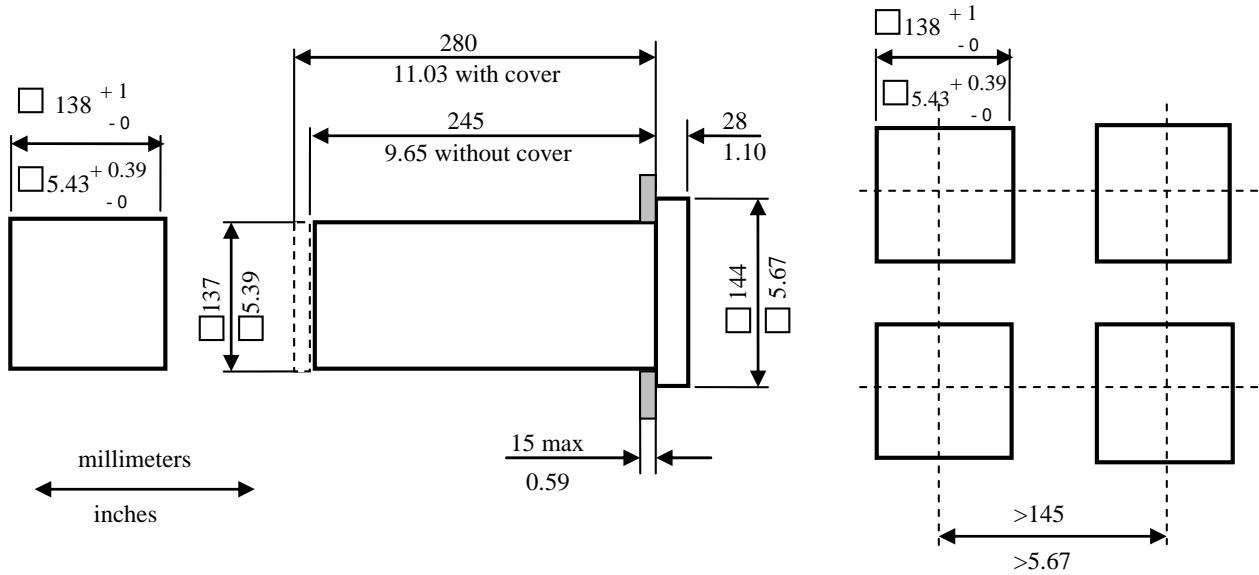
Available ranges - DPR100 A/B			
Thermocouples	J	°C	°F
		-50 to +150	-100, 0, 300
		0 to 400	0 to 800
	K	0 to 800	0 to 1500
		0 to 400	0 to 800
		0 to 800	0 to 1500
		0 to 1200	0 to 2400
Nicrosil-Nisil (N)	0 to 1400	0 to 2500	
	0 to 400	0 to 800	
	0 to 800	0 to 1500	
	0 to 1200	0 to 2400	
S	0 to 1600	0 to 3000	
R	0 to 1600	0 to 3000	
T	-100 to +200	-150 to +400	
	0 to 150	0 to 300	
	50 to 150	100 to 300	
Note : (provision to accept T/C input for remote compensation box at fixed temperature of 50°C or 60°C)			
RTD's	Pt 100 (Alpha = 0.00385)	°C	°F
		-50 to +50°C	-60 to +140°F
		-50 to +150	100, 0, +300
		0 to 100	0 to 200
		-200 to +200	-300 to +400
mV and Volt	0 to 10 mV	0 to 1 V	
	0 to 20 mV	0 to 5 V	
	0 to 50 mV	1 to 5 V	
	10 to 50 mV	0 to 10 V	
	0 to 100 mV		
mA	0 to 20 mA or 4 to 20 mA linear		
	4 to 20 mA SQRT		
	input resistor 250 ohms required		

Minimum System Requirements for PC Software- DPR100 A/B

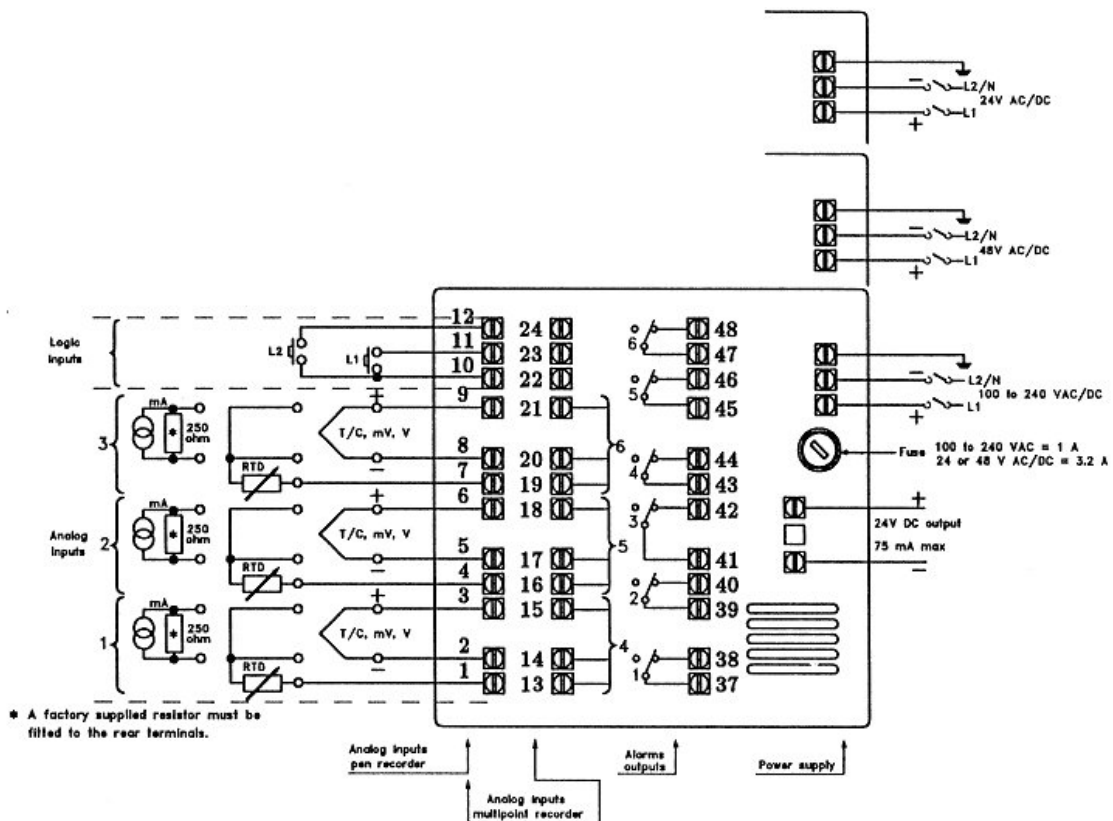
NOTE: Make sure you are an “Administrator” before installing the product.

- Windows 7 Professional, Ultimate or Enterprise OS 32-bit or 64-bit edition requires 1 GHz Processor, 2GB RAM and 15GB Hard Disk Space
- Windows XP SP1 professional requires a 233 Mhz CPU with 128 MB of RAM
- Windows 2000 SP4 professional requires a Pentium 133 Mhz CPU with 64 MB of RAM
- Windows NT Workstation 4.0 SP5 requires a 486 Mhz CPU with 32 MB of RAM
- Windows 98SE requires a Pentium 150MHz processor with 32 MB of RAM
- 10MB free on your hard disk for the PC Configuration software.
- Recommended video resolution: 800x600 or higher.

Dimensions - DPR100 A/B



Connections - DPR100 A/B



Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

**Asia Pacific Global
Technical Support
Field Instruments**

Phone: +65 6580 3156
Fax: +65 6445-3033

Australia

Honeywell Limited
Phone: +(61) 7-3846 1255
FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36
Toll Free Fax:
1300-36-04-70

China – PRC - Beijing

Honeywell China Inc.
Phone: +(86-10) 8458-3280
Fax: +(86-10) 8458-4650

China – PRC - Shanghai

Honeywell China Inc.
Phone: (86-21) 5257-4568
Fax: (86-21) 6237-2826

China – PRC - Chengdu

Honeywell China Inc.
Phone: +(86-28) 6613-5078
Fax: +(86-28) 8678-7061

China – PRC - Xi'an

Honeywell China Ltd - Xi'an.
Phone: +(86-29) 8833-7490
Fax: +(86-29) 8833-7489

China – PRC - Shenzhen-

Honeywell China Inc.
Phone: +(86) 755-2518-1226
Fax: +(86) 755-2518-1221

Indonesia

PT Honeywell Indonesia
Phone: +(62) 21-535-8833
FAX: +(62) 21-5367 1008

**Honeywell Automation
India Ltd.**

Honeywell Ltd.
Phone: +(91) 6603-9400
Fax: +(91) 6603-9600

Japan

Honeywell Inc.
Phone: +(81) 3 6730 7197
Fax: +(81) 3 6730 7228

Malaysia

Honeywell Engineering
Sdn Bhd
Phone: +(603) 7958-4788
Fax: +(603) 7958-8922

New Zealand

Honeywell Limited
Phone: +(64-9) 623-5050
Fax: +(64-9) 623-5060
Toll Free (0800) 202-088

Singapore

Honeywell Pte Ltd.
Phone: +(65) 6580 3278
Fax: +(65) 6445-3033

South Korea

Honeywell Korea Co Ltd
Phone: +(822) 799 6114
Fax: +(822) 792 9015

Thailand

Honeywell Systems
(Thailand) Ltd.
Phone: +(662) 693-3099
FAX: +(662) 693-3089

Taiwan R.O.C.

Honeywell Taiwan Ltd.
Phone: +(886-2) 2245-1000
FAX: +(886-2) 2245-3243

SE Asia Countries

see Honeywell Pte Ltd
(Singapore)
for: Philippines, Pakistan,
Cambodia, Guam, Laos,
Myanmar, Vietnam,
East Timor

SE Asia Countries

see Honeywell
Automation India Ltd for:
Bangladesh
Nepal
Sri Lanka

EUROPE
Austria

Honeywell Austria GmbH
Phone: +43 (316)400123
FAX: +43 (316)40017

Belgium

Honeywell SA/NV
Phone: +32 (0)2728 24 07
FAX: +32 (0)2728 22 45

Bulgaria

Honeywell EOOD
Phone: +(359) 2 40 20
900
FAX: +(359) 2 40 20 990

Czech Republic

Honeywell spol. s.r.o.
Phone: +420 242 442 232
FAX: +420 242 442 131

Denmark

Honeywell A/S
Phone: +(45) 39 55 55 55
FAX: +(45) 39 55 55 58

Finland

Honeywell OY
Phone: +358 (0)20752 2753
FAX: +358 (0) 20752 2751

France

Honeywell SA
Phone: +33 (0)1 60198075
FAX: +33 (0)1 60198201

Germany

Honeywell AG
Phone: +49 (69)8064-299
FAX: +49 (69)806497336

Hungary

Honeywell Kft.
Phone: +36-1-451 4300
FAX: +36-1-451 4343

Italy

Honeywell S.p.A.
Phone: +390292146307
FAX: +39 0292146377

The Netherlands

Honeywell B.V.
Phone: +31 (0) 20 5656200
FAX: +31 (0) 20 5656210

Norway

Honeywell A/S
Phone: (45) 39 55 55 55

Poland

Honeywell Sp. zo.o
Phone: +48-22-6060900
FAX: +48-22-6060901

Portugal

Honeywell Portugal Lda
Phone: +351 21 424 5000
FAX: +351 21 424 50 99

Romania

Honeywell Bucharest
Phone: +40 (0) 21 2316437
FAX: +40 (0) 21 2316439

Russian Federation (RF),

Honeywell Field Solutions
Kievskaya str., 7,
Moscow 121059, Russia
Phone +7 (495) 796 98 60
Fax +7 (495) 797 99 64

Slovak Republic

Honeywell s.r.o.
Phone: +421-2-58247 410
FAX: +421-2-58247 415

Spain

Honeywell S.A.
Phone: +34 (0)91313 61 00
FAX: +34 (0)91313 61 30

Sweden

Honeywell AB
Phone: +(46) 8 775 55 00
FAX: +(46) 8 775 56 00

Switzerland

Honeywell AG
Phone: +41 18552448
FAX: +(41) 1 855 24 45

Turkey

Honeywell Turkey A.S.
Phone: +90 216 578 71 00
FAX: +90 216 575 66 35

Ukraine

Honeywell
Tel: +380-44-201 44 74
Fax: +380-44-201-44-75

United Kingdom

Honeywell Control Systems
Ltd.
Phone: +44 (0)1344 655251
FAX: +44 (0) 1344 655554

MIDDLE EAST
Abu Dhabi U A E

Middle East Headquarters
Honeywell Middle East Ltd.
Phone: +971 2 4041246
FAX: +971 2 4432536

Sultanate of Oman

Honeywell & Co Oman LLC
Phone: +968 24 701153/
Ext.33
FAX +968 24 787351

Saudia Arabia

Honeywell Turki Arabia Ltd
Jubail Office
Phone: +966-3-341-0140
Fax: +966-3-341-0216
Honeywell - ATCO
Dammam Office
Phone: 0096638304584
Fax: 0096638338059

Kuwait

Honeywell Kuwait KSC
Phone: +965 242 1327 to 30
Fax: +965 242 8315
And
Phone: +965 326
2934/1821Fax: +965 326
1714

AFRICA
Mediterranean & African

Distributors
Honeywell SpA
Phone: +39 (02) 250 10 604
FAX: +39 (02) 250 10 659

**South Africa (Republic of)
and sub saharan**

Honeywell Southern Africa
Honeywell S.A. Pty. Ltd.
Phone: +27 11 6958000
FAX +27 118051504

NORTH AMERICA
Canada

Honeywell LTD
Phone: 1-800-737-3360
FAX: 1-800-565-4130

USA

**Honeywell Process
Solutions,
Phone: 1-800-423-9883
Or 1-800-343-0228
Email: ask-ssc@honeywell.com**

SOUTH AMERICA
Argentina

Honeywell S.A.I.C.
Phone: +(54-11) 4383-3637
FAX: +(54-11) 4325-6470

Brazil

Honeywell do Brasil & Cia
Phone: +(55-11) 7266-1900
FAX: +(55-11) 7266-1905

Chile

Honeywell Chile, S.A.
Phone: +(56-2) 233-0688
FAX: +(56-2) 231-6679

Mexico

Honeywell S.A. de C.V.
Phone: +(52) 55 5259-1966
FAX: +(52) 55 5570-2985

Puerto Rico

Honeywell Inc.
Phone: +(809) 792-7075
FAX: +(809) 792-0053

Trinidad

Honeywell Inc.
Phone: +(868) 624-3964
FAX: +(868) 624-3969

Venezuela

Honeywell CA
Phone: +(58-2) 238-0211
FAX: +(58-2) 238-3391

Specifications are subject to change without notice.

For More Information

Learn more about how Honeywell's DPR 100 Analogue Scales Pen and Multipoint can offer quality and flexibility for recording in a wide range of applications, visit our website www.honeywell.com/ps/hfs or contact your Honeywell account manager.

Honeywell Process Solutions

1860 West Rose Garden Lane

Phoenix, Arizona 85027

Tel: 1-800-423-9883 or 1-800-343-0228

www.honeywell.com/ps

EN01-6030
February 2011
© 2010-11 Honeywell International Inc.

The Honeywell logo is displayed in a bold, red, sans-serif font.