



Honeywell® DR4300 10" Process Recorder

Design your basic or digital display recorder system with optional features and advanced functions



CE **2**year warranty

● **HOT TIP** ●

Find a wide selection of chart paper ranges on page 7.

- Fully user configurable—adapt to a wide range of applications
- All models feature universal input and built-in self test

How To Determine Your Custom Order Number

Identify the specific recorder and options you would like to order from each option table. Complete the Key Numbers Form below to determine your custom order number by using the “Key No.” in each of the six option tables on the following pages. Then call our Customer Contact Department to place your order.

Note: Tables 1, 2, 3, 4, and 5 use a composite of option key numbers. A complete order number must have the specified number of digits filled in. There are restrictions to options based on other selections. Please see the “notes” section when indicated for further information.

KEY NUMBERS FORM

ITEM No. TABLE	OUTPUT TABLE 1	OPTIONS TABLE 2	PEN 1 OPTIONS TABLE 3	PEN 2 OPTIONS TABLE 4	APPROVALS/ CERTIFICATES TABLE 5
5 digits	4 digits	5 digits	4 digits	4 digits	5 digits
{ _ _ _ _ }	— { _ _ _ }	— { _ _ _ _ }	— { _ _ _ }	— { _ _ _ }	— { _ _ - 0 0 0 }

Honeywell—Reg TM Honeywell Inc

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Custom Order Number Example DR4301 - 0000 - B0100 - 0000 - 0000 - U0 - 000:

To determine a custom order number, refer to the applicable table per each bullet listing

Item Table

"Basic Recorder, 1 channel". Choose item number DR4301

Table 1: Outputs

"Pen 1 Controls - None". Choose key number

0

"Pen 2 Controls - None". Choose key number

0

"Pen 1 Output Type - None". Choose key number

0

"Pen 2 Output Type - None". Choose key number

0

Completes key number for Outputs: 0000.

Table 2: Options

"Door - Blue". Choose key number B

"Door Accessories - Latch - Standard". Choose key number

"Power - Universal". Choose key number

"Communications - None". Choose key number

0

"Product Configuration - None". Choose key number 0

Completes key number for Options: B0100.

Table 3: Pen 1 Options for the DR4301

"Digital inputs - None". Choose key number

0 0

"Totalizer - None". Choose key number

Completes key number 0000

Table 4: Pen 2 Options for the DR4301

"Digital inputs - None". Choose key number

0 0

"Totalizer - None". Choose key number

Completes key number for Pen 2 Options: 0000.

Final Order Number: DR4301 - 0000 - B0100 - 0000 - 0000 - U0 - 000

● **More Information** ●

For further details, or for help in specifying a custom recorder application, contact our Application Specialists.

• Option Tables •

ITEM NUMBER TABLE

C-P Catalog number	Description	ITEM number
EX-80661-00	Basic Recorder, 1 channel	DR4301
EX-80661-10	Basic Recorder, 2 channel	DR4302
EX-80661-20	Digital Display Recorder, 1 channel	DR4311
EX-80661-30	Digital Display Recorder, 2 channel	DR4312

OUTPUTS - TABLE 1

Control Outputs—provides one or two control outputs, PID-A, ON-OFF, or PD with Manual Reset.

Alarm Outputs—activate external equipment with two electromechanical relays, solid state or open collector outputs.

Use a composite of options for a 4-digit key number for this table. (See page 1 example)

Options	Description	Item				Key No.
		DR4301	DR4302	DR4311	DR4312	
Pen 1 Controls	Outputs (2) - alarm/on-off (see Note 1)			■	■	2 _ _ _
	PID (1) with Accutune (see Notes 1 & 2)			■	■	3 _ _ _
	PID (1) setpoint program/timer (see Notes 1 & 2)			■	■	4 _ _ _
	Outputs (2) - alarm1/timer (see Note 1)			■	■	5 _ _ _
	4 - 20 mA retransmission output (see Notes 1 & 3)			■	■	A _ _ _
	FM approved limit control (see Note 1)			■	■	F _ _ _
	FM approved limit control/timer output (see Note 1)			■	■	G _ _ _
	None	■	■	■	■	0 _ _ _
Pen 2 Controls	Outputs (2) - alarm/on-off (see Note 4)				■	_ 2 _ _
	PID (1) (see Notes 2 and 4)				■	_ 3 _ _
	PID (1) setpoint program/timer (see Notes 2 & 4)				■	_ 4 _ _
	Outputs (2) - alarm/timer (see Note 4)				■	_ 5 _ _
	4 - 20 mA retransmission outputs (see Notes 3 & 4)				■	_ A _ _
	FM approved limit control (see Note 5)				■	_ F _ _
	FM approved limit control/timer output (see Note 5)				■	_ G _ _
	None	■	■	■	■	_ 0 _ _
Pen 1 Output Type	Electromechanical relay (see Note 6)			■	■	_ _ E _
	Solid state relay (see Note 6)			■	■	_ _ S _
	Open collector (see Note 6)			■	■	_ _ T _
	None	■	■	■	■	_ _ 0 _
Pen 2 Output Type	Electromechanical relay (see Note 7)				■	_ _ _ E
	Solid state relay (see Note 7)				■	_ _ _ S
	Open collector (see Note 7)				■	_ _ _ T
	None	■	■	■	■	_ _ _ 0

Note 1: This option is not available with key numbers _ _ 0 _ selections.

Note 2: PID controls options include current output, plus two outputs for alarms. If on-off or time proportional simplex control is used, only one output is available for an alarm. Time prop duplex control requires the use of both outputs and therefore no relay outputs are available for alarms on that pen. Accutune™ II tuning is a standard feature with PID control options.

Note 3: 4 - 20 mA retransmission outputs includes two outputs per pen for alarms. You must specify the type of alarm outputs required (i.e., relay, stainless steel relay, open collector outputs).

Note 4: This option is not available with key numbers _ _ _ 0 selections.

Note 5: This option is not available with key numbers 2 _ _ _ , 3 _ _ _ , 4 _ _ _ , 5 _ _ _ , A _ _ _ , _ _ _ 0.

Note 6: This option is not available with key numbers 0 _ _ _ .

Note 7: This option is not available with key numbers _ 0 _ _ .

Door Features—convenient accessories can be ordered with keypads built into the door—no need to open the recorder to program or activate. Door locks are also available to prevent unauthorized entry.

Instrument and Transmission Power—add excitation voltage to your recorder—no need for a separate power supply for your transmitter. The 24 VDC output powers up to two transmitters.

Communications Option—provides serial communication allowing configuration and monitoring of process.

Product Configuration—the basic recorder configuration is easily set up by selecting the pre-configured range, actuation, and chart speed.

Use a composite of options for a 5-digit key number for this table.

Options	Description	Item				Key No.
		DR4301	DR4302	DR4311	DR4312	
Door	Gray	■	■	■	■	G _ _ _ _
	Blue	■	■	■	■	B _ _ _ _
	Black	■	■	■	■	K _ _ _ _
	Gray door with key pad			■	■	H _ _ _ _
	Blue door with key pad			■	■	C _ _ _ _
	Black door with key pad			■	■	L _ _ _ _
	SST door	■	■	■	■	R _ _ _ _
	NEMA 4 SST door	■	■	■	■	S _ _ _ _
Door Accessories	Standard latch (see Note 8)	■	■	■	■	_ 0 _ _ _
	Keyed latch	■	■	■	■	_ A _ _ _
	Door lock (see Note 9)	■	■	■	■	_ K _ _ _
Instrument Power Transmission Power	Universal power, plus 24VDC transmitter power	■	■	■	■	_ _ 3 _ _
	Universal power	■	■	■	■	_ _ 1 _ _
Communications	None	■	■	■	■	_ _ _ 0 _
	RS 485 MODBUS® RTU (see Note 10)	■	■	■	■	_ _ _ C _
Product Configuration	Standard (see Addendum)	■	■	■	■	_ _ _ _ 0
	For non-standard ranges (see Note 11)	■	■	■	■	_ _ _ _ 1

Note 8: This option is not available with key numbers S _ _ _ _.

Note 9: This option is not available with key numbers R _ _ _ _ , or S _ _ _ _.

Note 10: On recorders DR4301 and DR4302: the communication address is fixed and requires the display assembly to change it. Only one instrument and only one pen can exist on the network, otherwise communication conflicts will exist. Pen 1 is the default when communications is specified.

Note 11: Call our Application Specialists for special configuration ordering. To work through the settings, this option is supplied with one box of **80661-80**, even “starter” charts.

MODBUS—Reg TM of Schneider Automation, Inc.



PEN 1 OPTIONS - TABLE 3

Digital Inputs—provide two digital inputs per pen, which act as remote switches. When contact is closed, recorder can be set to a) go to the second setpoint, b) switch to manual mode, c) switch to manual mode with failsafe, d) hold execution of the setpoint ramp or program, e) begin execution of the setpoint ramp or program, f) start the timer, g) reset the totalizer, or h) reset the limit controller.

Totalizer function—totalizes a variable, such as a flow signal, on one or both pens. Displays a 6-digit indication of totalized value; includes reset capability.

Use a composite of options for a 4-digit key number for this table.

Options	Description	Item				Key No.
		DR4301	DR4302	DR4311	DR4312	
Digital inputs	(see Note 12, 13 & 14)			■	■	D 0 __
	None	■	■	■	■	0 0 __
Totalizer	Totalizer (see Note 15)			■	■	__ T 0
	None	■	■	■	■	__ 0 0

Note 12: Digital inputs are only available when ordering outputs in TABLE 1.

Note 13: This option is not available with TABLE 1 key numbers 0 __ __.

Note 14: This option is not available with TABLE 1 key numbers 0000.

Note 15: This option is not available with TABLE 1 key numbers F __ __ __, _ F __ __, G __ __ __ or _ G __ __.

PEN 2 OPTIONS - TABLE 4

Digital Inputs—provide two digital inputs per pen, which act as remote switches. When contact is closed, recorder can be set to a) go to the second setpoint, b) switch to manual mode, c) switch to manual mode with failsafe, d) hold execution of the setpoint ramp or program, e) begin execution of the setpoint ramp or program, f) start the timer, g) reset the totalizer, or h) reset the limit controller.

Totalizer function—totalizes a variable, such as a flow signal, on one or both pens. Displays a 6-digit indication of totalized value; includes reset capability.

Use a composite of options for a 4-digit key number for this table.

Options	Description	Item				Key No.
		DR4301	DR4302	DR4311	DR4312	
Digital inputs	(see Notes 12, 13 & 14)				■	D 0 __
	None	■	■	■	■	0 0 __
Totalizer	Totalizer (see Note 15)				■	__ T 0
	None	■	■	■	■	__ 0 0

Note 12: Digital inputs are only available when ordering outputs in TABLE 1.

Note 13: This option is not available with TABLE 1 key numbers 0 __ __.

Note 14: This option is not available with TABLE 1 key numbers 0000.

Note 15: This option is not available with TABLE 1 key numbers F __ __ __, _ F __ __, G __ __ __ or _ G __ __.

APPROVALS / CERTIFICATES - TABLE 5

Approvals—recorders can be UL-listed, CSA-approved, or combined UL- and CSA-approved.

Use a composite of options for a 5-digit key number for this table.

Options	Description	Item				Key No.
		DR4301	DR4302	DR4311	DR4312	
Approval	UL listing (see Note 16)	■	■	■	■	U _
	CSA Certification (see Note 16)	■	■	■	■	C _
	UL and CSA Approval (see Note 16)	■	■	■	■	B _
	None	■	■	■	■	0 _
Certificate	Conformance (F3391)	■	■	■	■	_ 1 - 0 0 0
	Calibration (F3399) (see Note 17)	■	■	■	■	_ 2 - 0 0 0
	Conformance & Calibration (see Note 17)	■	■	■	■	_ 3 - 0 0 0
	None	■	■	■	■	_ 0 - 0 0 0

Note 16: This option is not available with TABLE 2 key numbers S _ _ _ _.

Note 17: You must supply the Input Actuation and Range information for each input with the order to have the unit supplied with a Certificate of Calibration (F3399).

• Replacement Items •

When pens need to be replaced, refer to the pen channel for correct ordering of items. The standard chart paper replacement is listed below. To order other chart paper options see next page.

Catalog no.	Description	
Replacement pens for process recorders		
EX-80661-92	For channel one. Pack of six.	
EX-80661-90	For channel two. Pack of six.	
Replacement chart paper for recorders		
EX-80661-80	24 hr, 100 divisions. Pack of 100 sheets.	

• Chart Paper •

SINGLE RANGE 10" CHARTS

Additional ranges are available below to meet all your recording needs. Pack of 100 sheets.

To order, use the base key number and add the chart key number to complete the 11-digit key number for this table.

CHART PAPER FORM

ITEM No.	
24 hour Key No. 24001660 -	7 day Key No. 24001661 -
3 digits { --- }	3 digits { --- }

● More Information ●

Other ranges are available, or for help in specifying an application, call our Application Specialists at (800) 323-4340.

Chart type	Range	Units	24 hour Key No. 24001660 - { --- }	7 day Key No. 24001661 - { --- }
B Thermocouple	0 to 1800	°C	135	—
J Thermocouple	0 to 150	°C	070	070
	0 to 300	°F	002	002
	0 to 400	°C	063	063
	0 to 1000	°F	015	010
	10 to 76	°C	030	030
K Thermocouple	-18 to 1320	°C	031	031
	0 to 200	°C	086	—
	0 to 400	°F	053	053
	0 to 800	°C	060	060
	0 to 1000	°F	007	016
R Thermocouple	0 to 1600	°C	017	017
	0 to 2500	°F	025	025
S Thermocouple	0 to 1600	°C	066	—
	0 to 3000	°F	147	147
T Thermocouple	-250 to 150	°F	042	042
	-130 to 410	°F	033	033
	-90 to 210	°C	034	034
	0 to 300	°C	—	079
Linear	-100 to 100	°F	201	—
	0 to 1	—	211	202
	0 to 14	—	036	036
	0 to 14	pH	073	—
	0 to 1000	—	173	—
	5 to 9	pH	—	093
	70 to 140	—	038	038
	100 to 300	°F	131	—
	100 to 600	°F	140	—
	2250 to 2500	°F	209	—
	1300 to 3600	°F	203	—
RTD - PT100	-200 to 100	°F	044	044
	-125 to 375	°F	020	020
	-100 to 50	°C	091	—
	-100 to 100	°C	080	080
	-100 to 200	°C	021	021
	-85 to 190	°C	047	—
	-50 to 50	°C	092	—
	-30 to 170	°F	087	087
	-20 to 30	°F	—	117
	0 to 150	°C	122	—
	50 to 100	°C	061	—
	50 to 150	°C	116	116

• Addendum •

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PERFORMANCE

Number of Inputs— One pen model: one input Two pen model: two inputs

REFERENCE ACCURACY

Types of Input Actuators	Range		Reference Accuracy* with Field Calibration		Reference Accuracy* with Factory Calibration		Temp Stability ± Degrees Error
	°F	°C	± °F	± °C	± °F	± °C	Per 1 Degree T
B Thermocouple	105 to 3300	41 to 1816	—	—	—	—	—
	150 to 500	66 to 260	28.0	16.0	—	—	4.00
	500 to 1000	260 to 538	6.0	3.3	37	21	1.00
	1000 to 3300	538 to 1815	3.0	1.7	18	10	0.40
E Thermocouple	-454 to 1832	-270 to 1000	—	—	—	—	—
	-454 to -202	-270 to -130	36.0	20.0	79	44	1.40
	-202 to 1832	-130 to 1000	2.0	1.1	14	8	0.70
E (low) Thermocouple	-200 to 1100	-129 to 593	1.0	0.6	11	6	0.40
J Thermocouple	0 to 1600	-18 to 871	1.6	0.9	7	4	0.15
J (low) Thermocouple	20 to 770	-7 to 410	0.8	0.5	6	3	0.08
K Thermocouple	-320 to 2500	-196 to 1371	2.4	1.4	9	5	0.15
K (low) Thermocouple	-20 to 1000	-29 to 538	1.0	0.6	7	4	0.10
Ni-Ni Moly	32 to 2500	0 to 1317	—	—	—	—	—
	32 to 500	0 to 260	1.5	0.8	12	7	0.21
	500 to 2500	260 to 1371	1.0	0.6	9	5	0.14
Nicrosil-Nisil	0 to 2372	-18 to 1200	2.1	1.2	11	6	0.20
R Thermocouple	0 to 3100	-18 to 1704	—	—	—	—	—
	0 to 500	-18 to 260	4.0	2.2	26	14	0.50
	500 to 3100	260 to 1704	2.0	1.1	13	7	0.21
S Thermocouple	0 to 3100	-18 to 1704	—	—	—	—	—
	0 to 500	-18 to 260	4.0	2.2	23	13	0.50
	500 to 3100	260 to 1704	2.0	1.1	13	7	0.21
T Thermocouple	-300 to 700	-184 to 371	1.6	0.9	13	7	0.15
T (low) Thermocouple	-200 to 600	-129 to 316	0.8	0.5	7	4	0.15
W5W26	0 to 4200	-18 to 2316	—	—	—	—	—
	0 to 600	-18 to 316	2.8	1.6	19	11	1.00
	600 to 3600	316 to 1982	2.6	1.5	13	7	0.50
	3600 to 4200	1982 to 2316	3.2	1.8	27	15	0.20
RTD Platinum 100 ohms**	-300 to 900	-184 to 482	0.8	0.5	4	2	0.15
RTD Platinum 100 ohms	-130 to 392	-90 to 200	0.6	0.3	3	2	0.15
RTD (low)** 100 ohms (T)***	-238 to 482	-150 to 250	0.6	0.3	3	2	0.15

* Includes reference junction calibration of ± 0.01 degrees using the standard "ice bath" method of calibration. Factory calibration at reference $\pm 1.2^\circ\text{F}$. Note that factory calibration may have typical variations of 150 microvolts or 0.6 ohms for RTDs which means recalibration may be required to achieve stated accuracy.

**IEC Alpha = 0.00385

***Alpha = 0.00391

Note: Field calibration requires model with display.

