

Description

The **PC4** is a small, plug-in RS-422 cable driver board that drives long cables up to 1000 feet using differential signalling to provide improved noise immunity. The **PC4** can be used with the E2, E3, H1, H3, S1 and S2 encoders. Each board has a 5-pin socket designed to plug into the 5 pins of the encoder.

On the output side of the **PC4**, ribbon cables can be used for lengths up to 100 feet; twisted pair cables are recommended for longer lengths. An optional 120 Ω terminating resistor may be placed across each pair on the receiver side of the cable, matching the cable's characteristic impedance. When calculating the power requirements of the encoder side of the cable, include the current consumed by the module, the driver IC and any terminating resistors. Be sure to supply sufficient voltage to compensate for the voltage drop due to the resistance of the power and ground wires. If an RS-422 receiver chip such as 26C32 is used on the receiver side of the cable, a 0.1 μ F ceramic monolithic bypass capacitor across +5V and ground located within 1 inch of the receiver chip is recommended.



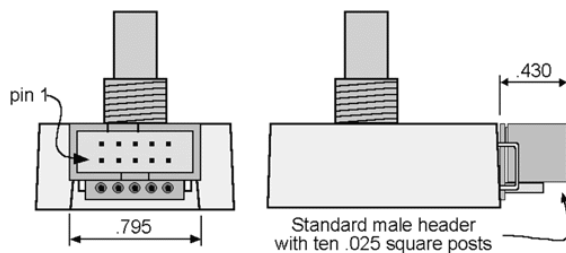
Environmental

Parameter	Min.	Max.	Units
Operating Temperature	-40	100	C
Electrostatic Discharge, Human Body Model	-2	2	kV

Mechanical

The cable drivers shown below are compatible only with the E2, E3, H1, H3, S1 and S2.

PC4 Differential cable driver board. (shown mounted on an S1 encoder).



Electrical

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Parameter	Min.	Typ.	Max.	Units	Notes
Supply Voltage	4.5	-	5.5	Volts	-
Supply Current (26C31)	-	1	2	mA	-
Output High Voltage	2.5	-	-	Volts	IOH = -20 mA
Output Low Voltage	-	-	0.8	Volts	IOL = 20 mA
Propagation Time	-	-	15	ns	-

Connectors

Product	Driver Header	Connector Mates With
PC4-H10	TE# 103309-1	CON-C10*
PC4-H5	TE# 640456-5	CON-C5*

* US Digital part number. For more information see the Cables / Connectors page.

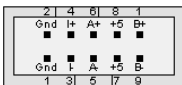
Pin-outs

PC4-H5 Output Connector



Pin	Description
1	Ground
2	Index
3	A channel
4	+5VDC power
5	B channel

PC4-H10 Output Connector



Pin	Description
1	Ground
2	Ground

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Pin	Description
3	Index-
4	Index+
5	A- channel
6	A+ channel
7	+5VDC power
8	+5VDC power
9	B- channel
10	B+ channel

Ordering Information

PC4 -

Connector

H5 =

H10 =

Notes

- Cables and connectors are not included and must be ordered separately.
- US Digital® warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

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