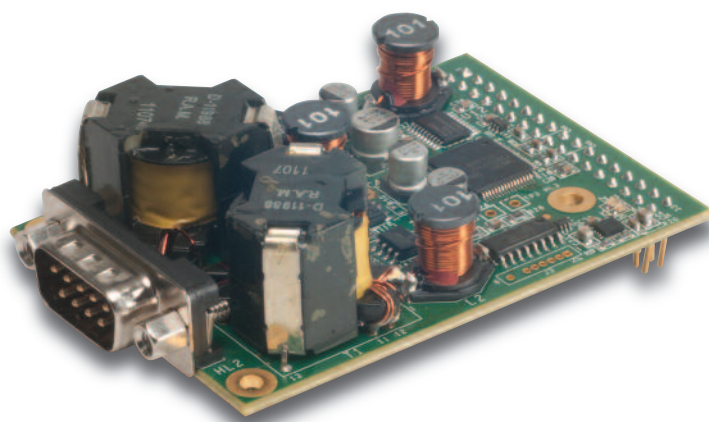


XCD-HRx-BD-01

Drive and Control

Application Recommendations

- Auto Focus/Zoom Modules
- Shutter & Aperture Control
- Filter Changers
- Pan and Tilt Modules
- OEM stages



ORDERING INFORMATION

Part Number: XCD-HR1-BD-01
XCD-HR2-BD-01
XCD-HR4-BD-01

RELATED PRODUCTS/ ACCESSORIES

Part Number: HR1-1, HR2-1,
HR4-1 Motors

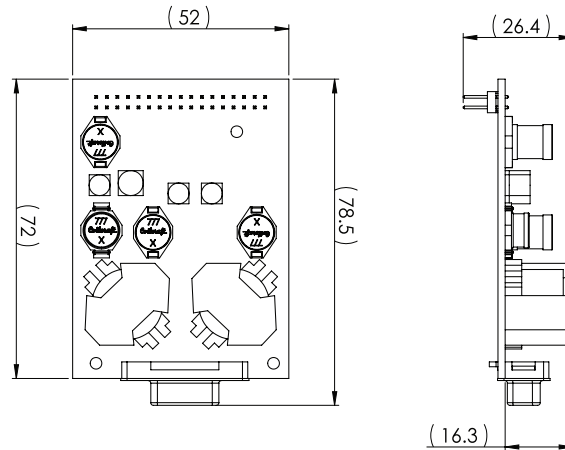
Part Number: XCDH150100-00 XCD
HR Motherboard Assembly

Product Description

Nanomotion's XCD – Drive & Control redefines the art of miniaturized drive and control electronics with the smallest hardware for operating piezo ceramic servo motors. The XCD provides complete servo control for the OEM market, coupled with the power stage and drive electronics on one board. XCD will have an OEM specific, motherboard for connecting to the motor, position sensor, communication and power.

The XCD for ST/HR motors is provided as a single axis board which can drive the ST, HR1, HR2, or HR4 motor. The XCD can operate in the 'AB5' mode with brake on/off, or in the more traditional AB1A mode. The XCD for ST/HR motors accepts a differential quadrature encoder signal and is programmed via an IIC interface and the Nano-Commander user software.

MECHANICAL DRAWINGS AND INTERFACE



TECHNICAL SPECIFICATIONS

Mechanical
Dimensions: 52mm x 72mm x 26.4mm

PERFORMANCE

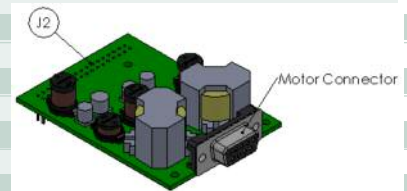
- Motors supported: HR1, HR2, HR4
- Drive mode : AB5 , AB1
- Support AQB sensor (Differential Single ended 5V)
- Communication: SPI slave, Uart (LVTTTL)
- Safety : Limit switches , motor interlock, Emergency
- 2 x input TTL (5v/3.3v)
- 2 x output LVTTTL (3.3v)
- 3 x Analog input: NTC , Joystick , Potentiometer (Ain range: 0V to 3.3V)
- 2 x Analog out (pwm)

ELECTRICAL

Drive voltage: 12V
Power consumption: 13W

ELECTRICAL INTERFACE

Main Connector			Motor Connector	
pin number	pin name	pin description	pin name	pin description
1	+12v	12vdc power input	gnd	system ground
2	+12v	12vdc power input	n. c.	not connected
3	spi_clock	spi clock	motor_up	high voltage
4	spi_en	spi enable	motor_common	high voltage
5	mis0	master in slave out	motor_down	high voltage
6	mosi	master out slave in	motor_connected	input
7	rx_d	rs232 receive	shield	inner shield
8	tx_d	rs232 transmit	n. c.	not connected
9	gnd	system ground	n. c.	not connected
10	gnd	system ground		
11	sda	i2c serial data		
12	scl	i2c serial clock		
13	gpio1	general purpose digital input 1		
14	gpio2	n/a		
15	gpio3	general purpose digital output 3		
16	gpio4	general purpose digital output 4		
17	an1	analog input 1		
18	an2	analog input 2		
19	anlg_out1	analog output 1		
20	an3	analog input 3		
21	anlg_out2	analog output 2		
22	emergency	emergency stop		
23	+5v	5vdc power out		
24	pwm_out	keep alive		
25	a+	incremental signals		
26	limit_sw_left	limit switch left		
27	a-	encoder incremental signals		
28	limit_sw_right	limit switch right		
29	b+	encoder incremental signals		
30	index+	encoder reference mark/positive signal		
31	b-	encoder incremental signals		
32	index-	encoder reference mark/negative signal		



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