

B5328 - BarrettHand Cable

Connector 1 to PCB on Baseplate

Wire color	Contact number
black	1
red	2
blue	3
pink	4
grey	5
yellow	6
brown	7
white	8
violet	9
green	10

Connector 2 to Hand Power Supply

Contact number	Function	Wire color
1	+ 5 V	white
2	+ 24 V	black
3	5 V GND	violet
4	24 V GND	red
5	RS-232 in	yellow
6	stuff pin only	
7		
8	+ 24 V	blue
9		
10	24 V GND	pink
11		
12		
13	Reset	brown
14		
15	RS-232 out	grey

GREEN WIRE
SEE NOTE 1



Fig. 1: Proper length of wires from connector 1

Part	Manufacturer	Mfg. Part #	Distributor	Dist. Part #	Part Description
Connector 1	Hirose	DF11-10DS-2C	Digikey	H2023-ND	Socket 2mm dual row conn., 10crimps
Connector 1 Crimps	Hirose	DF11-2428SC	Digikey	H2139-ND	Crimp for DF11 sockets
Connector 2	AMP	748364-1	Digikey	A2076-ND	15 pin high density male D-sub connector shell
Connector 2 Crimps	AMP	748333-7	Digikey	A2086-ND	Crimp type pin for 15 pin high density D-sub
Connector 2 Backshell	AMP	745171-5	Newark	89F692	15 pin high density D-Sub Hood, Die cast zinc
Cable	Olflex	27860	Standard Electric	27860	24AWG, 10conductors, flexing, length=3m
Backshell Split-Lock Washer # 4			McMaster	91102A005	Regular Spring Lock Washer, Zinc-Plated, #4
Urethane	Hardman	04024	V.O. Baker	04024	Urethane adhesive - Purple-beige

Rev	Updated/User	Checked/User	Comments
A	980723 VK		Created
B	990514 VK	000501 DR	Updated part numbers
C	000614 JG	000614 JG	changed 15 pin D-sub to high density connector, added crimp part, changed backshell to match connector
D	000911 AC	000912 JG	changed connections between connector 1 and connector 2
E	021102 VK		added spare green wire & split washer, changed p.# D-sub crimp to Flash Gold, cable description to 24 AWG, added notes
F	051805 VK		added spare pin 6 as key for one way connection
G	060801 DW		Functionally identical to previous revs. Added colors to left side of diagram, added hand assembler's notes, clarified other notes, added photos.
AH.00	070711 DC	070711 DW	Added urethane procedure, photo

Wire-harness assembler's notes:

1. Cut spare green wire at Connector 2 side of cable. Do not connect to Connector 2. It is connected to Connector 1 for mechanical strength only.
2. Align conductors of cable in Connector 1 according to insertion order (red, pink, yellow, white, green). Maintain length shown in figure 1.
3. At Connector 2, use urethane for better strain relief. See Fig. 2. Do NOT apply to top edge on the sides of the connector. Best applied with a syringe [McMaster P/N 7510A651(syringe) and 75165A677(tip)]
4. Use heat shrink: 3/8", length = 30mm, for strain relief of Connector 2 as shown.
5. Use heat shrink: 3/8", length = 35mm spaced away from Connector 1 approximately as shown.
6. Put split-lock washer #4 under heads of backshell.
7. Stuff pin 6 in Connector 2, but do not connect to any wires. It acts as a key and prevents Connector 2 from being forced onto its mating connector upside down (the D-shape alone is not enough).

Barrett Hand assembler's notes:

1. Bend Connector 1 wires by 90 degrees towards even-numbered pins.
2. Add tie-wraps as required.

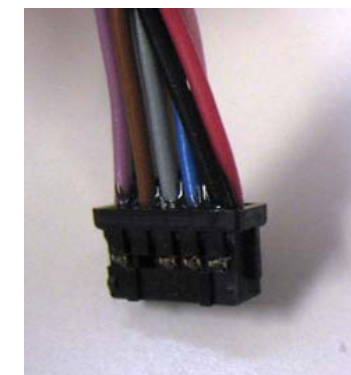


Fig. 2: Connector 1 with Urethane