

REVISIONS					
REV.	DESCRIPTION	ECO	DATE	EDITED BY	REVIEWED BY
A	Initial Release		9/3/2020	ND	JW/NZ

**Cable 1 Preparation (Phase)**

- Trim jacket back to the lengths shown at both ends, making sure not to cut braid.
- Unweave braid back to jacket at both ends of cable. Braid is woven of 16 strands of 8 individual conductors.
- At both ends of cable twist 10 strands (80 conductors) together and apply clear heatshrink (item 9) to newly formed conductor. Heatshrink should sit the specified strip length for the terminal used from the tip of the conductor. Trim remaining braid flush with cable jacket.
- Apply black heatshrink (item 10) to both ends over the original green/yellow - this will be referred to as the "black" conductor. Heatshrink should sit the specified strip length for the terminal used from the tip of the conductor.
- At both ends apply heatshrink (item 7), covering cut ends of jacket and braid.
- At both ends strip & terminate wires per manufacturers' recommendations and insert into connectors according to tables.

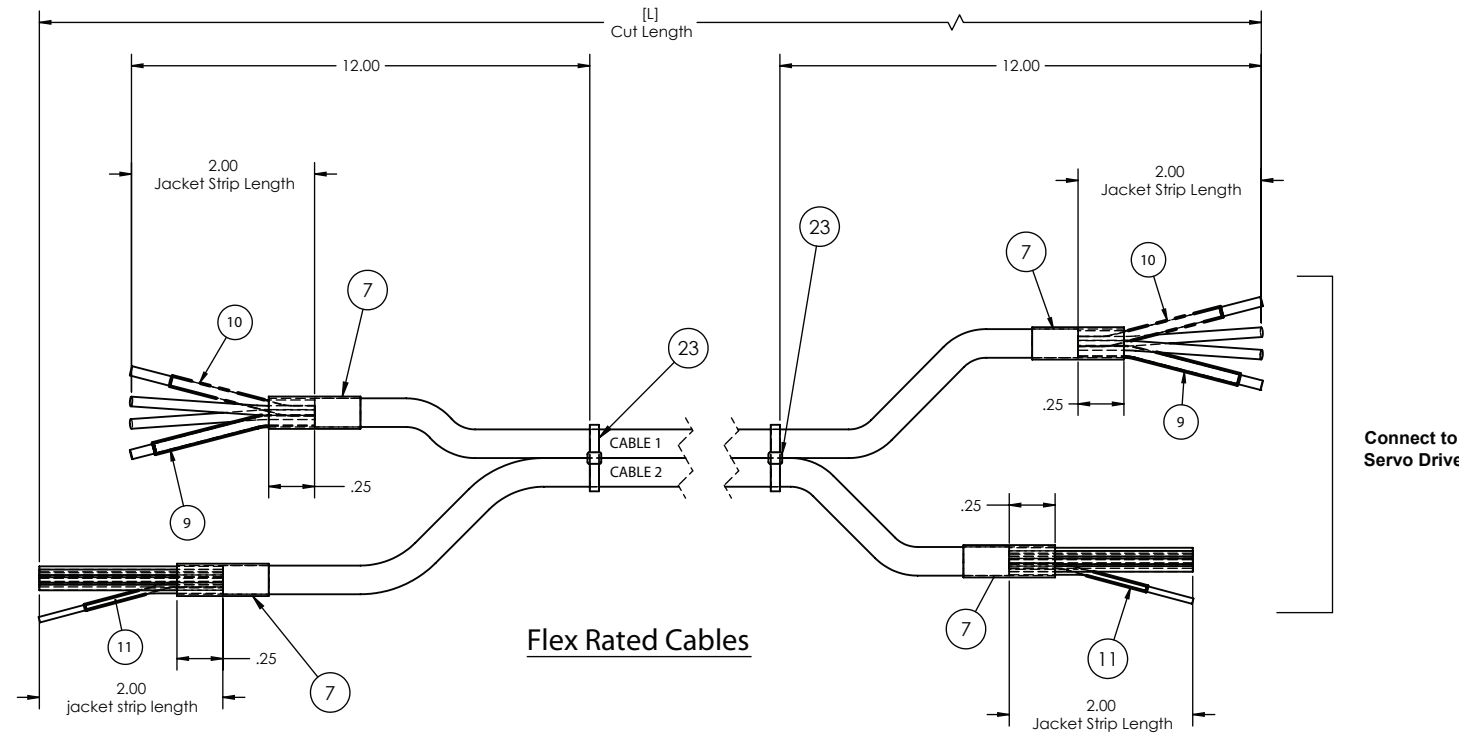
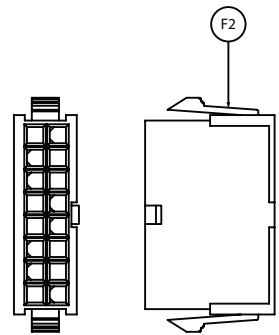
**Cable 2 Preparation (Signal)**

- Trim jacket back to the lengths shown at both ends, making sure not to cut braid.
- Unweave braid back to jacket at both ends of cable. Braid is woven of 15 strands of 5 individual conductors.
- At both ends of cable twist 5 strands (25 conductors) together and apply clear heatshrink (item 11) to newly formed conductors. Heatshrink should sit the specified strip length for the terminal used from the tip of the conductor. Trim remaining braid flush with cable jacket.
- At both ends trim grey, pink, brown, and red/blue wires flush with jacket.
- At both ends apply heatshrink (item 7), covering cut ends of jacket and braid.
- At both ends strip & terminate wires per manufacturers' recommendations and insert into connectors according to tables.

**Test Requirements**

- OPEN**  
Test all conductors for open circuits.
- SHORT**  
Test each conductor for short circuits to all other conductors.
- HIPOT 1**  
Connect pins from phase BLK1, BLK2, and BLK conductors together and connect pins from encoder GRN, BLU, BRN/GRN, BLK, GRY/PNK, RED, WHT/GRN, WHT, VIO, YEL.
  - Hipot test between these two groups of conductors @ 2,300 VAC for 10 seconds: leakage current below 250uA with no arcing observed.
- HIPOT 2**  
Connect pins from phase BLK1, BLK2, and BLK together.
  - Hipot test between this group of conductors and the CLR conductor from cable 1 @ 1,000 VAC for 10 seconds: leakage current to be below 250uA with no arcing observed.

Connect to Hudson Motor

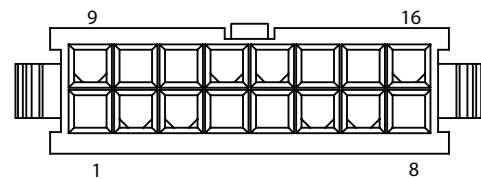


Flex Rated Cables

Connect to Servo Drive

**Pinout**

Pin	Terminal	Color	Signal	Cable
1	R1-B	CLR	MOTOR SHIELD	1
2	NO CONNECT			
3	R1-A	GRN	COMM S-T	2
4	R1-A	BLU	COMM R-S	2
5	R1-A	BRN/GRN	COMM T-R	2
6	R1-A	DRAIN	ENC SHIELD	2
7	R1-A	BLK	GND	2
8	R1-A	GRY/PNK	ENC A~	2
9	R1-B	BLK 1	R	1
10	R1-B	BLK 2	S	1
11	R1-B	BLK	T	1
12	R1-A	RED	+5 ENC	2
13	R1-A	WHT/GRN	ENC I	2
14	R1-A	WHT	ENC B	2
15	R1-A	VIO	ENC A	2
16	R1-A	YEL	ENC B~	2



Wire Entry View

**Cable BOM**

Item #	Vendor	Vendor PN	Description	Qty
Cable 1	IGUS	CF140-15-03	16AWG PHASE CABLE, FLEX RATED	1
Cable 2	IGUS	CF240-02-14	ENCODER/SENSOR CABLE, FLEX RATED	1
23	RICHCO	WIT-18R-B	cable tie, black, 4"	2
R1	MOLEX	39-01-2166	housing, plug, Minifit-16	1
R1-A	MOLEX	39-00-0048	terminal, Minifit pin, 22-28 awg	11
R1-B	MOLEX	39-00-0081	terminal, Minifit pin, 16 AWG	4
11	TYCO	RNF100-1/16-CL	tubing, heatshrink, 1/16" polyolefin, 2:1, CLEAR, Cut Length 1.75 in	2
10	TYCO	Versafit-3/32-0-SP	tubing, heatshrink, 3/32" polyolefin, 2:1, BLACK, Cut Length 1.75 in	2
9	TYCO	RNF100-1/8-CL	tubing, heatshrink, 1/8" polyolefin, 2:1, CLEAR, Cut Length 1.75 in	2
7	TYCO	Versafit-3/8-0-SP	tubing, heatshrink, 3/8" polyolefin, 2:1, BLACK, Cut Length 1 in	4

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All dimensions are in inches unless otherwise noted.

Third-Angle Projection

Interpret Geometric Tolerances per ANSI/ASME Y14.5 (2009)

No substances incorporated within this part may be defined as "hazardous substances" by the most recent RoHS Directives and Annex amendments. No "substances of very high concern" may be used in the production of this part as defined by the REACH initiative (EC 1907/2006). In addition, this part must not contain any Conflict Minerals which have been mined under conditions of armed conflict as defined in section 1502 of the US Congressional Dodd-Frank Consumer Protection Act.

Drawn By: Nick D  
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Drawn Date: 9/3/2020  
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MC-RR16F-L/A

DWG. NO./REV

motor cables

TITLE

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