

ECO NO.	REV.
ECO -07893	A
ECO-08217	B
ECO-08704	C
ECO-10710	D

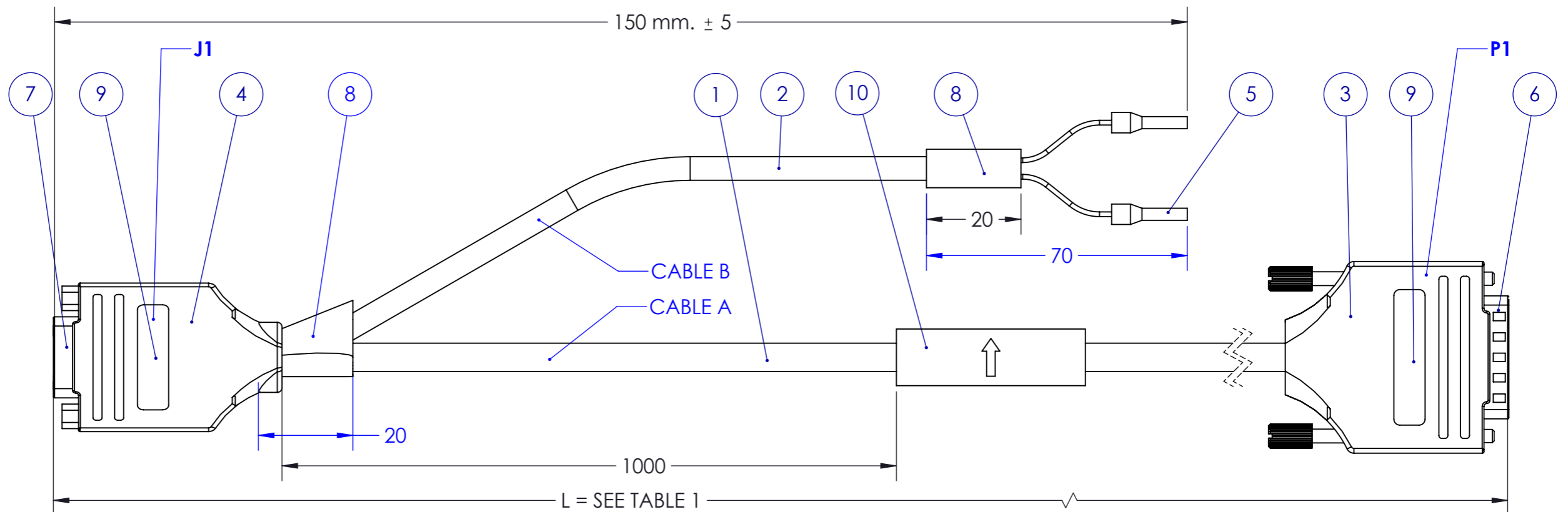
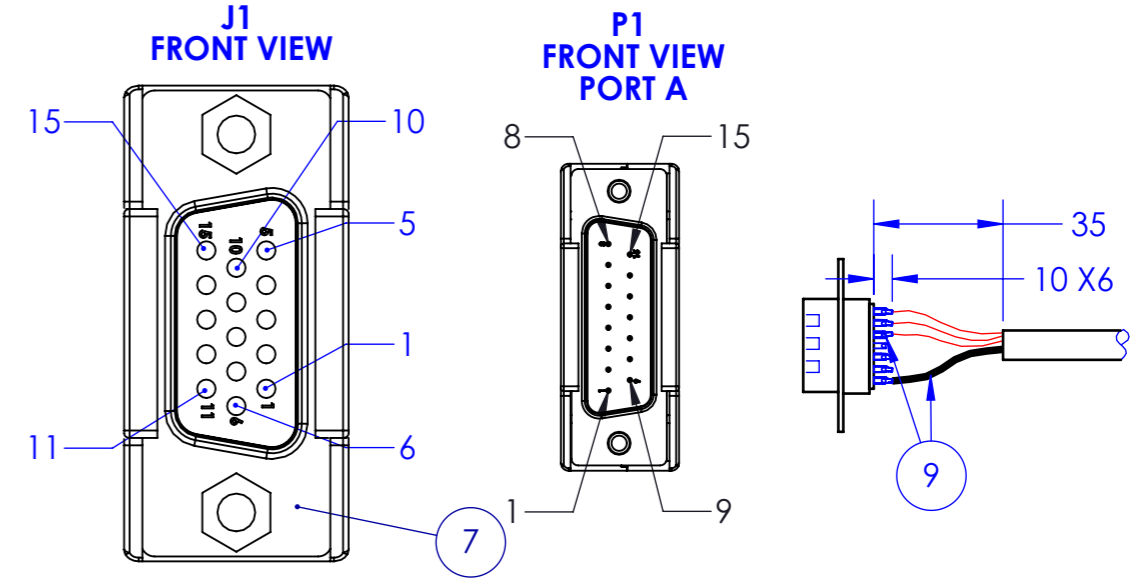


TABLE 1

ELMO P/N	LENGHT IN METERS	LABEL
CBL-DABSENCL40	2.0	CBL-DABSENCL40
CBL-DABSENCL40-5	5.0	CBL-DABSENCL40-5

	FROM: MOTOR ENCODER J1	TO: PORT A P1	WIRE / COLOR	TWISTED & SHIELDED WIRE	SIGNAL	DESCRIPTION
CABLE A	9	15	GREEN	PAIR 1	SD +	ABS - DATA +
	14	14	YELLOW		SD -	ABS - DATA -
	1	4	BROWN	PAIR 2	VCC + 5V	SUPPLY RETURN
	2	13	WHITE		COMRET	ENCODER SUPPLY +5V
	3	11	DRAIN WIRE	DRAIN WIRE	COMRET	
CABLE B	4	ENDING FERRULE	RED	PAIR 1	VB	+ V BATTERY
	5	ENDING FERRULE	BLACK		COMRET	- V BATTERY



**NOTES:**

1. SOLDER THE WIRES TO J1 AND P1.
2. SHRINK WIRE AFTER SOLDERING WITH ITEM 9.
3. SHRINK DRAIN WIRES WITH ITEM 9.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	WIP-062X2X28	CABLE CONTROL 2X2X28AWG SF/UTP 30V	SEE TABLE 1
2	WIP-061X2X28	CABLE CONTROL 1X2X28AWG SF/UTP 30V	150 mm.
3	JCC-2005150C	METAL HOOD D TYPE 15 PIN	1
4	JCC-2003090C	HOOD 9 PIN METAL	1
5	JCF-031528G8	ENDING FERRULE 26AWG-28AWG GREY	2
6	JCW-200115MC	D TYPE CONNECTOR, 15 PIN MALE	1
7	JCW-200215F58	D TYPE 15 PIN HD FEM NUT=5.8	1
8	STB-26350	BLACK SRINK 1/4 "	40 mm.
9	STB-21170	BLACK SHRINK 3/64 "	200 mm.
10	LABEL	SEE TABLE 1.	1

ALL DIMENSIONS ARE IN MM. (+/- 5%)	RoHS Compliance				
		NAME	SIG	DATE	TITLE
	DRAWN	A.C.		21/08/2014	CABLE FBK A W/BAT D-SUB&D-SUB
	DESIGN	RamiCh		21/08/2014	SIZE A3 SCALE 1:1 DWG. NO. MD-00641 REV. D
DO NOT MEASURE THE DRAWING.	CHECK				CAT. NO. CBL-DABSENCL40
FILE NAME: MD-00641D.sldprt	APVD.	-	-	-	PAGE: 1 OF: 2

# GUIDE LINES FOR CABLES MANUFACTURERS

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On Drawing NOTES: (General for Cables)

## 1. DESCRIPTION OF APPLICATION:

- 1.1 OPERATION TEMP. RANGE: -30C TO +80C DEGREES, if not otherwise specified.
- 1.2 VENDOR IS RESPONSIBLE TO PROVIDE A SPECIFICATION APPROVAL INCLUDING:
  - 1.2.1 Mechanical DRAWING (Structure, Dimensions, Tolerance)
  - 1.2.2 Electrical Drawing
  - 1.2.3 PART LIST
  - 1.2.4 ELECTRICAL,MECHANICAL,MATERIAL,SPEC, of parts
  - 1.2.5 UL-EFILE NO. PER ITEM AND MATERIAL
  - 1.2.6 UL-STYLE

## 2. GENERAL:

- 2.1 FINISHED PRODUCT SHALL BE CLEAN AND FREE OF FOREIGN MATERIAL.
- 2.2 Any change from drawing or spec, must be approved in writing by Elmo.

## 3. CHARACTERISTICS OF CABLES / WIRES:

- 3.1 MECHANICAL (ACCORDING TO WIRES SPEC):
  - 3.1.1 ALL CRIMPED CONNECTIONS SHALL MEET PULL TEST AND CRIMP HEIGHT REQUIRMENTS PER CONNECTOR MANUFACTURE'S SPECIFICATION (MINIMUM OF 5 KG. PULL OF FORCE).
  - 3.1.2 MINIMUM PULL-OUT FORCE FOR WIRE WITH PINCH CRIMP TERMINAL:
  - 3.1.3 5 LB (2.3KG) OR TERMINAL SPEC. WHICHEVER IS GREATER.
  - 3.1.4 Hot BEND TEST: SAMPLES SHALL WITHSTAND 100 CYCLES , at +80 DEGREES BEND AT THE STRAIN RELIEFFS, WITHOUT INCREASE OF RESISTANCE OF ANY CONDUCTOR.
  - 3.1.5 COLD BEND TEST: SAMPLES SHALL WITHSTAND 100 CYCLES , at -40 DEGREES BEND AT THE STRAIN RELIEFFS, WITHOUT INCREASE OF RESISTANCE OF ANY CONDUCTOR.

## 4. QUALTY ASSURACE PROVISIONS:

### 4.1 PRODUCTION LOTS INSPECTION REQUIRMENTS:

- 4.1.1 THE SUPPLIER INSPECTION DEPARTMENT (QA), SHALL INSPECT EACH PRODUCTION LOT IN ACCORDANCE WITH SAMPLING PLAN.
- 4.1.2 THE SUPPLIER SHALL PROVIDE, ATTACHED TO EVERY LOT, A TEST REPORT C.O. T. (Certificate Of Testing), AND C.O.C., (CERTIFICATE OF CONFORMANCE).
- 4.1.3 THE FOLLOWING ITEMS ARE TO BE CHECKED on the sampling cables:
  - 4.1.3.1 PHYSICAL DIMENTIONS
  - 4.1.3.2 Pull Test results
  - 4.1.3.3 Shrinking Tubes
  - 4.1.3.4 Marking sustainability
  - 4.1.3.5 Pin to Pin connection Test results
  - 4.1.3.6 Pin to all other Pins Insulation Test (at 100 V) by automatic wiring tester.
  - 4.1.3.7 Visual Inspection per IPC-A-620 Class 2 or Class 3 against specific ELMO definitions.
  - 4.1.3.8 Molding (Appearance, Location, Dimensions, etc.), if applicable.
  - 4.1.3.9 Other MANUFACTURING PRACTICE.

### 4.2 QUALIFICATION REQUIREMENTS:

- 4.2.1 SOLDERABILITY: PROVIDE 95% SOLDER COVERAGE ON ALL SOLDER TERMINATION ACCORDING TO IPC-A-610 LEVEL 2 or class 3 against specific ELMO definitions.

## 5. PACKING REQUIREMENTS:

- 5.1 PARTS ARE TO BE PACKED SO AS TO PREVENT DAMAGE IN SHIPMENT AND HANDLING AND MEET ELMO STANDART.
- 5.2 PACKAGE LABELING MUST MEET RECIVING BARCODE SPECIFICATION.
- 5.3 EACH CABLE SHOULD BE PACKED INDIVIDUALLY IN Static Free PLASTIC BAG WITH A MAXIMUM OF 10 PCS IN BUNDLE BAG PACKAGE.
- 5.4 ELMO KIT NUMBER, DATE CODE, VENDOR I.D., AND BARCODE LABEL MUST BE MARKED ON THE OUTSIDE OF EACH BAG AND BOX AS PER ELMO SPEC.
- 5.5 Bags carrying cables, are to be packed in a transportation box; Each Transportation Box Weight not exceed 25 Kg

## 6. MARKING LABEL:


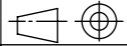
- 6.1 CABLE MARKING METHOD:
  - 6.1.1 ACCORDING TO DRAWING DOCUMENTS P/N
  - 6.1.2 THE MARKING LABEL SHALL INCLUDE as human readable:
    - 6.1.2.1 ELMO P/N
    - 6.1.2.2 VENDOR I.D Number
    - 6.1.2.3 Manufacturing Lot DATE CODE
  - 6.1.3 Barcoded Type 39 or 128: Cable P/N Number

## 7. Isolation and Shrink SLEEVE:

- 7.1 ANY DAMAGE TO THE CABLE SLEEVE, CABLE INSULATION, OR CABLE WIRES SHALL CONSTITUTE AS FAILURE.
- 7.2 After sleeves shrinking process, THE SLEEVE SHALL NOT SLIDE easily ON THE CABLE INSULATION.

## 8. REGULATION:

- 8.1 PLASTIC PARTS TO BE UL 94VO.
- 8.2 CABLE PARTS TO BE UL2464 VW-1.

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