

HITACHI CABLE MANCHESTER

Customer Specification

HCM - 30093/50

RFQ #: 26336

ITEM DESCRIPTION: CATEGORY 5e POWER SUM CABLE, CONSISTING OF 25 PAIRS, 24 AWG, UNSHIELDED WITH AN OVERALL JACKET. CMR, c(UL)us TYPE FT4

COMPONENT:

CONDUCTOR: 24 AWG SOLID BARE COPPER
.0208" NOM OD

INSULATION: FLAME RETARDENT POLYOLEFIN
.038" NOM OD
.0086" AVG WALL

PAIRING:

COMPONENTS ARE TWISTED INTO PAIRS WITH VARYING LEFT HAND LAYS TO MINIMIZE CROSSTALK.

<u>PAIR #</u>	<u>COLOR</u>	<u>PAIR #</u>	<u>COLOR</u>
1	BLU-WHT+WHT-BLU	2	ORN-WHT+WHT-ORN
3	GRN-WHT+WHT-GRN	4	BRN-WHT+WHT-BRN
5	GRY-WHT+WHT-GRY	6	BLU-RED+RED-BLU
7	ORN-RED+RED-ORN	8	GRN-RED+RED-GRN
9	BRN-RED+RED-BRN	10	GRY-RED+RED-GRY
11	BLU-BLK+BLK-BLU	12	ORN-BLK+BLK-ORN
13	GRN-BLK+BLK-GRN	14	BRN-BLK+BLK-BRN
15	GRY-BLK+BLK-GRY	16	BLU-YEL+YEL-BLU
17	ORN-YEL+YEL-ORN	18	GRN-YEL+YEL-GRN
19	BRN-YEL+YEL-BRN	20	GRY-YEL+YEL-GRY
21	BLU-VIO+VIO-BLU	22	ORN-VIO+VIO-ORN
23	GRN-VIO+VIO-GRN	24	BRN-VIO+VIO-BRN
25	GRY-VIO+VIO-GRY		

CABLING:

ALL COMPONENTS ARE CABLED TOGETHER WITH FILLERS WITH A LEFT HAND LAY AND WRAPPED WITH A NYLON BINDER.

HITACHI CABLE MANCHESTER, INC. 900 Holt Avenue-East Industrial Park Manchester, N.H. 03109 (603) 669-4347	Drawn By: RPO Date: 12/29/99 Checked By: MGR Date: 12/29/99 Issued By: RPO Date: 12/29/99	REV# D
	THIS PRODUCT MADE IN THE U.S.A.	
ITEM: 30093-0050-L17-XXX-650-S-01000-2050-00	PAGE 111 of 3 Approved By: Date:	

HITACHI CABLE MANCHESTER

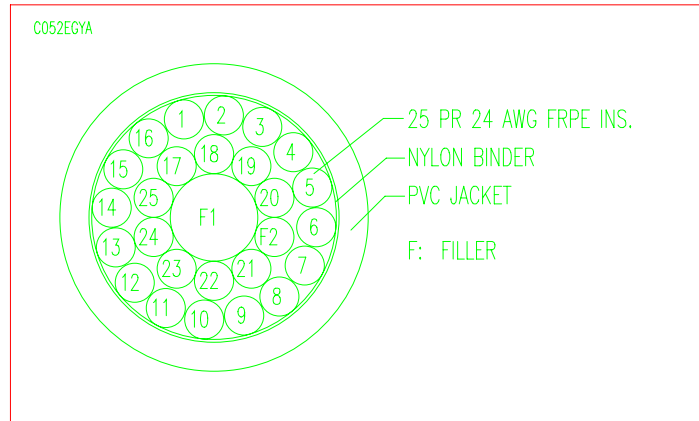
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OVERALL JACKET:

PVC MEDIUM BLUE
.487" NOM OD
.025" AVG WALL

A RIPCORD IS PULLED IN UNDER JACKET.



MARKING:

THE CABLE IS IDENTIFIED WITH THE FOLLOWING PRINT LEGEND:

**HITACHI CABLE MANCHESTER CATEGORY 5e POWER SUM ---
25PR/24 c(UL)us CMR - FT4 - (UL) VERIFIED TO CAT5e
TIA/EIA-568-B.2 - Z/YY (XXXX) - NNNNNN**

WHERE: Z = MONTH OF MFG.

YY = YEAR OF MFG.

XXXX = JOB NUMBER

NNNNNN = SEQUENTIAL FOOTAGE MARKERS

AGENCY APPROVALS:

UNDERWRITERS LABORATORIES, INC. TYPE CMR COMMUNICATIONS RISER CABLE LISTED AS BEING SUITABLE FOR USE IN A VERTICAL RUN IN A SHAFT OR FROM FLOOR TO FLOOR. ALSO LISTED AS HAVING FIRE-RESISTANT CHARACTERISTICS CAPABLE OF PREVENTING THE CARRYING OF FIRE FROM FLOOR TO FLOOR. IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE.

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HI-NET / CATEGORY 5e BACKBONE CABLE WORST CASE ELECTRICAL CHARACTERISTICS†

Characteristic Impedance:	100 \uparrow 15 \downarrow (0.772-100.0 MHz)
Maximum Conductor Resistance:	9.38 \downarrow /100 Meters @ 20°C
Maximum Resistance Unbalance:	5%
Maximum Mutual Capacitance:	5.6 nF/100 Meters @ 1 kHz
Maximum Capacitance Unbalance:	330 pF/100 Meters
Maximum Delay Skew*:	45 ns/100 Meters

Frequency (MHz)	Insertion Loss Max. (dB / 100 m)	NEXT Loss Min. (dB / 100 m)		ACR Min. (dB / 100 m)		ELFEXT Min. (dB / 100 m)		Return Loss Min. (dB / 100 m)	Delay Max. (ns / 100 m)
		WP	PS	WP	PS	WP	PS		
0.772	1.8	67.0	64.0	65.2	62.2	66.0	63.0	-----	-----
1.0	2.0	65.3	62.3	63.3	60.3	63.8	60.8	20.0	570
4.0	4.1	56.3	53.3	52.2	49.2	51.8	48.8	23.0	552
8.0	5.8	51.8	48.8	46.0	43.0	45.7	42.7	24.5	547
10.0	6.5	50.3	47.3	43.8	40.8	43.8	40.8	25.0	545
16.0	8.2	47.2	44.2	39.0	36.0	39.7	36.7	25.0	543
20.0	9.3	45.8	42.8	36.5	33.5	37.8	34.8	25.0	542
25.0	10.4	44.3	41.3	33.9	30.9	35.8	32.8	24.3	541
31.25	11.7	42.9	39.9	31.2	28.2	33.9	30.9	23.6	540
62.5	17.0	38.4	35.4	21.4	18.4	27.9	24.9	21.5	539
100.0	22.0	35.3	32.3	13.3	10.3	23.8	20.8	20.1	538

†Discrete values are for information only. Equations for swept frequencies govern limits.

THE IMPEDANCE VALUES ABOVE REFLECT ACTUAL INPUT IMPEDANCE DATA. THE HI-NET FAMILY DOES NOT UTILIZE CURVE SMOOTHING OR FITTING WHEN MEASURING AND REPORTING IMPEDANCE DATA. THE HI-NET SERIES MEETS INTERNATIONAL REQUIREMENTS FOR NON-FITTED INPUT IMPEDANCE. THIS CABLE IS COMPLIANT TO TIA/EIA-568-B.2 FOR CATEGORY 5e AND IS SWEEP TESTED THROUGH 100 MHZ.

File: C5EBB001.DOC

Rev	Revision	Date	By	Appvd	PAGE 3333 of 3
B	UPDATED RFQ DETAILS	07/31/00	RGI	RP	
C	UPDATED PRINT TO SHOW UL 5E VERIFICATION	01/30/02	RP	RP	
D	Updated marking, RFQ details.	09/22/03	MO	MO	