

Low-noise Multiway Cables for Position-sensitive Ionization Chambers



Features

- 44-way screened cable with anti-triboelectric coating (N.E.Wire “Newtral”™).
- Designed for use with Pyramid ionization chambers and multi-channel electrometers.
- Color-coded identification bands.
- Individually tested for offset current.

Applications	<ul style="list-style-type: none">• Particle therapy beam position measurement and dosimetry• Multistrip ionization chamber readout.• General multichannel low-current measurement.
Options	<ul style="list-style-type: none">• Custom lengths• Customer cable labeling

Specifications - cable stock

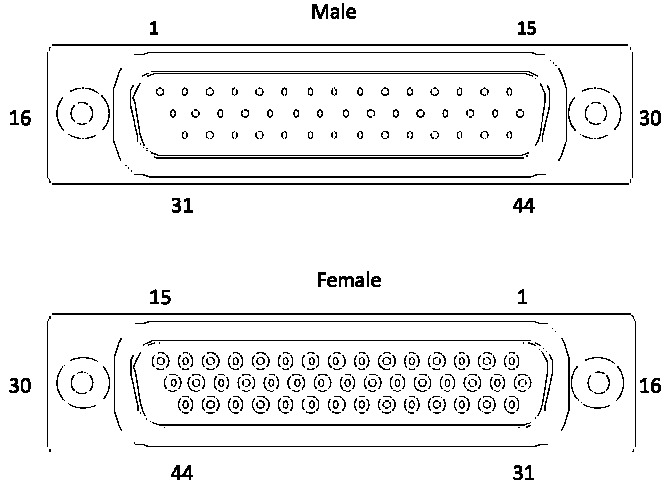
Cable configuration	44 individual cores 26 AWG 66/44 tinned copper (layers 9, 15, 20). Cores polyethylene insulated and with anti-triboelectric coating. 40 AWG braid outer screen >90% coverage. Polyester foil tape overwrap. PVC outer jacket orange.
Cable outer diameter	10.7 mm
Minimum bend radius	70 mm
Rated maximum voltage in application	65 V



Specifications - cable assemblies

Connectors

High-density 44-pin DSub female to male, connected pin to pin. Screens connected at both ends and to connector shells. View looking at connector face:



Typical pin allocation for ionization chamber / electrometer connection (channels numbered base 1)

1	Ch29	16	Ch31	31	Ch32
2	Ch28	17	Ch30	32	Shield
3	Ch26	18	Ch27	33	KGnd
4	Ch24	19	Ch25	34	KGnd
5	Ch22	20	Ch23	35	KGnd
6	Ch20	21	Ch21	36	KGnd
7	Ch18	22	Ch19	37	KGnd
8	Ch16	23	Ch17	38	KGnd
9	Ch14	24	Ch15	39	KGnd
10	Ch12	25	Ch13	40	KGnd
11	Ch10	26	Ch11	41	KGnd
12	Ch08	27	Ch09	42	KGnd
13	Ch06	28	Ch07	43	Shield
14	Ch04	29	Ch05	44	Ch03
15	Ch02	30	Ch01		

Leakage current offset

Less than 2 pA on each channel wire on terminated cable.

Color code options

Red, green, blue, white bands at each end.



Datasheet

CAB-HD44F-xxLN-HD44M

Ordering Information

CAB-HD44F-xxLN-HD44M	Cable assy, low-noise 44-way pin to pin, screened, high density 44 pin DSub female to high density 44 pin DSub male, xx foot length, no color band.
CAB-HD44F-xxLNc-HD44M	Cable assy, low-noise 44-way pin to pin, screened, high density 44 pin DSub female to high density 44 pin DSub male, xx foot length, choose color band c = r, g, b, w.
CAB-HD44F-xxLNzz-HD44M	Cable assy, low-noise 44-way pin to pin, screened, high density 44 pin DSub female to high density 44 pin DSub male, xx foot length, customer-defined marking identifier zz.

Example:

CAB-HD44F-25LNr-HD44M

Cable assembly 25 ' (7.6 m), 44 way pin to pin HD44F to HD44F with red color bands.

Recommended maximum length for particle therapy ionization chamber readout is 33 foot (10 m). Greater length can increase likelihood of electrical interference and ground loop effects, and also increases capacitive load on the electrometer.

Maximum available length 100 foot (30.5 m).

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