

# Multipair PVC Insulated Instrumentation Cable CES20 Part 4 Type 143



## Application

These cables are designed to connect electrical instrument circuits and provide communication services in and around processing plants (specifically steel industry). Suitable for direct buried applications.

## Specifications

- In accordance with British Steel specification CES20 Part 4 Type 143.
- **Conductors:** Flexible Class 5 tinned copper conductors to BS EN 60228
- **Insulation:** PVC insulation Type 2 to BS7655.
- **Pair Identification:** See colour code chart 5 on page 4:40.
- 100mm maximum pair lay length (minimum 10 twists per metre).
- **Binder Tape:** p.e.t.p. tape suitable overlap.
- PVC tape.
- **Collective Screen:** Solid 1/0.8mm tinned copper drain wire under and in contact with aluminium/p.e.t.p. laminated tape applied metallic side down.
- P.e.t.p. tape suitable overlap.
- PVC bedding to BS7655.
- Mild galvanised steel wires to BS EN10257-1.
- **Outer Sheath:** Orange PVC sheath Type TM.1 to BS EN 50363-4-1.
- Flame retardant to BS EN 60332-1-2.
- **Voltage Rating:** 300/500V.
- **Temperature Rating:** 70°C maximum conductor operating temperature.

Control & Instrumentation Cables  
**Multipair PVC Insulated Instrumentation Cable**  
**CES20 Part 4 Type 143**

Anixter Number	Number of Pairs/ Triple	Nominal Cond Area	Nominal Cond Stranding	Insulation Thickness	Nominal Diameter Under Armour	Armour Wire Diameter	Nominal O/D	Approx Cable Weight	Min Bending Radius (fixed bend)
		mm <sup>2</sup>	#/mm	mm	mm	mm	mm	kg/km	mm
A7CT-2402	2(Q)	0.75	24/0.2	0.60	10.40	0.9	15.20	485	130
A7CT-2405	5	0.75	24/0.2	0.60	13.20	1.25	18.90	720	160
A7CT-2410	10	0.75	24/0.2	0.60	17.70	1.6	24.60	1230	200
A7CT-2420	20	0.75	24/0.2	0.60	22.90	1.6	31.30	1805	260
A7CT-2430	30	0.75	24/0.2	0.60	28.50	2.0	37.00	2575	300
A7CT-2450	50	0.75	24/0.2	0.60	36.10	2.5	47.00	4250	380

(Q) = Quad

For further technical information refer to page 4.36.

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# Technical Information for CES20 Part 4 Type 143

## IDENTIFICATION OF PAIRS

Two pair cables shall be laid up in quad formation in clockwise order of rotation: blue, orange, green, brown.  
All other cables up to 50 pair shall be colour coded as given in colour code chart 5 below:

### COLOUR CODE CHART 5

Pair Number	a-Wire	b-Wire	Pair Number	a-Wire	b-Wire
1	Black	Blue	26	White	Yellow
2	Black	Orange	27	White	Violet
3	Black	Green	28	Blue	Red
4	Black	Brown	29	Blue	Yellow
5	Black	Grey	30	Blue	Violet
6	Blue	White	31	Green	Red
7	Blue	Orange	32	Green	Yellow
8	Blue	Green	33	Green	Violet
9	Blue	Brown	34	Red	Grey
10	Blue	Grey	35	Red	Orange
11	Orange	White	36	Red	Yellow
12	Orange	Green	37	Red	Brown
13	Orange	Brown	38	Red	Violet
14	Orange	Grey	39	Grey	Yellow
15	Green	White	40	Grey	Violet
16	Green	Brown	41	Orange	Yellow
17	Green	Grey	42	Orange	Violet
18	Brown	White	43	Yellow	Brown
19	Brown	Grey	44	Yellow	Violet
20	Grey	White	45	Brown	Violet
21	Black	White	46	Turquoise	Black
22	Black	Red	47	Turquoise	Blue
23	Black	Yellow	48	Turquoise	Red
24	Black	Violet	49	Turquoise	Orange
25	White	Red	50	Turquoise	Yellow

# Technical Information for CES20 Part 4 Type 143

N.B: The cables are suitable for operation at voltages up to and including 300Vrms core-earth and 500Vrms core-core, but are not intended for direct connection to low impedance source e.g. public mains electricity supply.

## ELECTRICAL CHARACTERISTICS

Maximum d.c. conductor resistance @ 20°C -  $27.2\Omega/\text{km}$

Maximum mutual capacitance of the pairs or adjacent cores - 250pF/m

Maximum capacitance between any core and screen - 450pF/m

Maximum L/R ratio -  $25\mu\text{H}/\Omega$

pF/m = pico Farads per metre

$\Omega/\text{km}$  = ohms per km

$\mu\text{H}/\Omega$  = micro Henrys per ohm

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