

## Signal and control cables in line with **VDE 0250 part. 814**

### Cable type

#### PANZERFLEX-SIGNAL 0,6/1 kV

(N)SHTÖU-JZ / -OZ suitable for festoon system and simple reeling operation

### Main application

Flexible signal/control for use on connecting movable parts of machine tools and any material handling equipment. Suitable for signaling supply on festoon systems with fast movement with strong acceleration, suitable also for simple reeling.

### Construction

<b>Conductor:</b>	Tinned copper conductor, flexible cl. 5 IEC 60228 Specially designed for mobile application
<b>Insulation:</b>	EPR compound better than 3GI3 Specially developed crushproof compound with improved electrical and mechanical characteristics
<b>Cores identification:</b>	Black with printed numbers with or without 1 green/yellow Each cores consecutively numbered
<b>Shield (on single core or pair):</b>	Tinned copper braid screen At least 70 % on cores At least 80 % on pairs
<b>Pairs (if any):</b>	Two cores layed-up Textile filler in the interstices to maintain good geometrical characteristics
<b>Laying-up:</b>	Short lay length for better flexibility ≤7 times the laying-up cores diameter (in maximum 3 layers for multicore cables)
<b>Separation (if any):</b>	Tape(s)
<b>Inner sheath:</b>	Polychloroprene rubber based compound Better than GM1b
<b>Antitwisting protection:</b>	Synthetic yarns Firmly bonded between inner and outer sheath
<b>Outer sheath:</b>	Black polychloroprene rubber compound UV resistant oil and chemical resistant better than 5GM2
<b>Marking:</b>	PALAZZO - PANZERFLEX 0,6/1 kV n. of cores/pairs x cross section

### Parameters

<b>Electrical</b>	Rated voltage	U <sub>0</sub> /U = 0,6/1 kV
	Maximum permissible operating voltage in AC systems	U <sub>m</sub> = 1,2 kV
	AC test voltage over 5 minutes	2,5 kV
	Current Carrying Capacity	According to DIN VDE 0298 part 4
<b>Bus compatibility</b>	Cable with twisted and individually shielded pairs can be used for bus systems	
<b>Thermal</b>	Fully flexible operation	- 25 °C
	Fixed installation	- 40 °C
	Maximum permissible operating temperature of the conductor	90 °C
	Short-circuit temperature of the conductor	250 °C
<b>Mechanical</b>	Tensile load	Up to 15 N/mm <sup>2</sup>
	Minimum bending radii	According to DIN VDE 0298 part 3
	Reeling operation	Up to 60 m/min
	Festoon systems	Up to 180 m/min
<b>Chemical</b>	Resistance to oil	According to VDE / IEC standard
	Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant.

If the environment reaches - 40 °C, Palazzo can provide a special version of this cable (differentiated from the standard one by the "-K" add to the code name), which is constructed with a special rubber compound that can face this condition.

For temperature down to - 40 °C we suggest to use the Panzerflex-K. To allow this cable operating at - 40 °C we use an outer-sheath compound that is less resistant to abrasion and tear so please contact our sales department for more information regarding application.



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**Table 1: PANZERFLEX-signal 0,6/1 kV (N)SHTÖU-JZ /-OZ cables**

N. of cores and nominal section (n-mm <sup>2</sup> )	Conductor		Overall diameter		Net weight approx. kg/km	Maximum permissible tensile force N	Current carrying capacity at 30 °C*						Short circuit current 80 ° to 200 °C kA 1 sec.
	D.C. resist. at 20 °C Ohm/km	nom. diam. mm	min.	max.			Laid straight A	(Suspended) in free air A	Spiral or 1 layer A	2 layers A	3 layers A		
3x(2x1,0)C	20,0	1,3	20,9	23,0	670	90	-	-	-	-	-	0,13	
3x(2x1,5)C	13,7	1,5	21,4	23,5	740	135	-	-	-	-	-	0,19	
6x(2x1,0)C	20,0	1,3	26,9	29,0	1.080	180	-	-	-	-	-	0,13	
6x(2x1,5)C	13,7	1,5	28,3	30,4	1.210	270	-	-	-	-	-	0,19	
6x(2x2,5)C	8,21	2,0	30,6	33,6	1.570	450	-	-	-	-	-	0,32	
19x2,5+5x1(c)	8,21	2,0	30,6	33,8	1.580	713	30	32	24	18	15	0,32	
19x2,5+5x1,5(c)	8,21	2,0	30,6	33,8	1.630	713	30	32	24	18	15	0,32	
25x2,5+5x1(c)	8,21	2,0	32,6	35,8	1.820	938	30	32	24	18	15	0,32	
25x2,5+5x1,5(c)	8,21	2,0	32,6	35,8	1.850	938	30	32	24	18	15	0,32	
26x2,5+10x1(c)	8,21	2,0	36,2	39,4	2.150	975	30	32	24	18	15	0,32	

\* Tabulated values are valid up to three loaded conductors with or without earth.

Derating factor shall be used for multicore cables depending on loaded conductors. See page 57.

The Tensile Load on control cables is calculated considering the limit of 15N/ mm<sup>2</sup> instead of the standard 20N/mm<sup>2</sup>.

This is due to the construction of these multi-core cables. For higher Tensile Load please consider to use our VS type as it is provided of a central Kevlar® strainer that allows much higher tensile loads.