

## Steuerleitungen / Control Cables

### FLEX-JZ/OZ

Flexibel nummeriert in Anlehnung an VDE 0250  
Flexible control cable, number coded



#### Verwendung:

Verwendung bei hohen Sicherheitsanforderungen als Energie- oder Verbindungsleitung, als Mess-, Kontroll- und Steuerleitung im Werkzeugmaschinenbau, Anlagenbau an Fließbändern und Fertigungsstraßen. Geeignet für feste Verlegung oder flexible Anwendung bei freier Bewegung ohne zwangsweise Zugbeanspruchung in trockenen und feuchten Räumen, jedoch nicht im Freien. Gute chemische Beständigkeit, weitgehend ölbeständig.

#### Aufbau:

- Feindrähtige Litze aus blanken CU-Drähten
- PVC Aderisolation schwarz mit fortlaufendem weißem Zahlenaufdruck
- Litzenaufbau gem. VDE 0295, Klasse 5
- Schutzleiter grün/gelb in der Außenlage
- PVC Außenmantel grau, RAL 7001

#### Technische Daten:

Leiter Werkstoff	Kupfer, blank
Leiterklasse	Klasse 5 nach DIN VDE 0295, bzw. IEC 60228
Aderisolationwerkstoff	PVC
Aderkennung	Nach DIN VDE 0293 schwarze Adern mit weißen Ziffern
Verseilung	Adern in Lagen verseilt
Außenmantelwerkstoff	PVC
Mantelfarbe	Grau, RAL 7001
Nennspannung [V]	300 / 500
Prüfspannung [V]	4000
Leiterwiderstand	DIN VDE 0295, bzw. IEC 60228
Isolationswiderstand	> 20 MΩ x km
Strombelastbarkeit	DIN VDE (s. technischer Anhang)
kleinster Biegeradius fest [xd]	4 x d
kleinster Biegeradius bewegt [xd]	15 x d
Betriebstemp. fest min/max [C]	-40°C bis +80°C
Betriebstemp. bew. min/mac [C]	-15°C bis +70°C
Temperatur am Leiter max.	+70°C bei Betrieb, +150°C im Kurzschlussfall
Brandverhalten	IEC 60332-1: flammwidrig und selbstverlöschend
Normen	EN 50525-2-11

#### Application:

Used as connecting cable, as measuring, checking and control cable in machine tool manufacturing, plant engineering and on assembly lines and production lines to meet stringent safety requirements. Suitable for fixed installation or flexible applications with unrestricted mobility without forced movement control and without exposure to tensile load. Installation in dry and moist rooms; outdoor installation not permitted. Good chemical resistance, largely oil resistant.

#### Construction:

- fine strands of bare copper conductor
- PVC core insulation black with continuous white figure imprint
- stranding acc. to VDE 0295 class 5
- earth conductor green/yellow in other layer
- PVC outer sheath grey, RAL 7001

#### Technical Data:

Conductor Material	Copper, bare
Conductor class	Class 5 according DIN VDE 0295, resp. IEC 60228
core insulation	PVC
core identification	According DIN VDE 0293 black cores with white numerals
stranding	Cores twisted in layers
outer sheath	PVC
sheath colour	Grey, RAL 7001
rated voltage [V]	300/500
testing voltage [V]	4000
conductor resistance	DIN VDE 0295, resp. IEC 60228
insulation resistance	> 20 MΩ x km
current carrying capacity	DIN VDE (see technical data)
min. bending radius fixed [xd]	4 x d
min. bending radius moved [xd]	15 x d
working temp fixed min/max [C]	-40°C up to +80°C
working temp moved min/mac [C]	-15°C up to +70°C
temp at conductor max.	+70°C in operation, +150°C in case of short-circuit
burning behaviour	IEC 60332-1: flame-retardant and self-extinguishing
Approvals	EN 50525-2-11

## Kabel / Cable

Art Nr. Part No.	Adern x Querschnitt no. of cores x cross section	Außen Ø ca. mm outer Ø ca. mm	CU Gewicht kg/100m copper weight kg/100m	Gewicht kg/100m weight kg/100m
10020050	2 x 0.50 OZ	4.704	1.00	3.30
10020075	2 x 0.75 OZ	5.20	1.50	4.30
10020100	2 x 1 OZ	5.50	1.92	5.00
10020150	2 x 1.50 OZ	6.30	2.90	6.70
10020250	2 x 2.50 OZ	7.60	4.80	10.10
10020400	2 x 4 OZ	9.90	7.70	18.50
10030050	3 x 0.50	5.10	1.50	4.70
10030075	3 x 0.75	5.80	2.20	6.60
99030075	3 x 0.75 OZ	5.80	2.20	6.60
10030100	3 x 1	6.20	2.90	6.80
99030100	3 x 1 OZ	6.20	2.90	6.40
99030150	3 x 1.50 OZ	6.80	4.30	9.50
10030150	3 x 1.50	6.80	4.30	9.50
10030250	3 x 2.50	8.30	7.20	14.80
99030250	3 x 2.50 OZ	8.30	7.20	14.80
10030400	3 x 4	10.10	11.52	23.50
10030600	3 x 6	11.70	17.30	41.50
10031000	3 x 10	14.70	28.80	68.20
10031600	3 x 16	20.00	46.10	82.70
10033500	3 x 35	25.90	100.80	158.50
10035000	3 x 50	31.50	144.00	255.00
10040050	4 x 0.50	5.50	1.92	5.80
10040075	4 x 0.75	6.35	2.90	7.80
99040075	4 x 0.75 OZ	6.30	2.90	7.80
10040100	4 x 1	6.70	3.80	8.50
99040100	4 x 1 OZ	6.70	3.80	8.50
10040150	4 x 1.50	7.40	5.80	11.70
99040150	4 x 1.50 OZ	7.40	5.80	11.70
99040250	4 x 2.50 OZ	9.10	9.60	23.60
10040250	4 x 2.50	9.10	9.60	23.60
10040400	4 x 4	11.00	15.40	29.90
10040600	4 x 6	12.80	23.00	48.00
10041000	4 x 10	16.30	38.40	73.70
10041000	4 x 16	20.60	61.40	108.70
10042500	4 x 25	25.70	96.00	158.20
10043500	4 x 35	27.20	134.40	210.60

Art Nr. Part No.	Adern x Querschnitt no. of cores x cross section	Außen Ø ca. mm outer Ø ca. mm	CU Gewicht kg/100m copper weight kg/100m	Gewicht kg/100m weight kg/100m
10045000	4 x 50	36.70	192.00	296.30
10050050	5 x 0.50	6.20	2.40	7.50
99050050	5 x 0.50 OZ	6.20	2.40	7.50
10050075	5 x 0.75	6.90	3.60	9.10
99050075	5 x 0.75 OZ	6.90	3.60	9.10
99050100	5 x 1 OZ	7.30	4.80	11.00
10050100	5 x 1	7.30	4.80	11.00
99050150	5 x 1.50 OZ	7.40	7.20	15.20
10050150	5 x 1.50	7.40	7.20	15.20
10050250	5 x 2.50	10.20	12.00	26.30
99050250	5 x 2.50 OZ	10.20	12.00	26.30
10050400	5 x 4	12.00	19.20	36.30
10050600	5 x 6	14.40	28.80	58.30
10051000	5 x 10	18.20	48.00	91.40
10051600	5 x 16	22.40	76.80	137.00
10052500	5 x 25	28.70	120.00	199.80
10053500	5 x 35	34.70	168.00	248.50
10055000	5 x 50	37.00	240.00	393.60
10060050	6 x 0.50	6.90	2.90	7.50
10060075	6 x 0.75	7.50	4.32	10.80
99060075	6 x 0.75 OZ	7.50	4.32	10.80
10060100	6 x 1	8.10	5.80	13.50
10060150	6 x 1.50	8.50	8.60	18.30
10070050	7 x 0.50	6.80	3.40	9.30
99070050	7 x 0.50 OZ	6.80	3.40	9.30
10070075	7 x 0.75	7.50	5.00	12.40
99070075	7 x 0.75 OZ	7.50	5.00	12.40
99070100	7 x 1 OZ	8.70	6.70	14.60
10070100	7 x 1	8.70	6.70	14.60
99070150	7 x 1.50 OZ	8.90	10.10	19.20
10070150	7 x 1.50	8.90	10.10	19.20
10070250	7 x 2.50	11.25	16.80	29.80
99070250	7 x 2.50 OZ	11.30	16.80	29.80
10070400	7 x 4	13.60	26.90	48.80
10070600	7 x 6	16.00	40.30	78.20
10071000	7 x 10	20.10	67.20	119.10

## Kabel / Cable

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10071600	7 x 16	25.60	107.50	177.90
10072500	7 x 25	34.00	168.00	247.70
10080050	8 x 0.50	7.90	3.80	11.50
99080050	8 x 0.50 OZ	7.90	3.80	11.50
99080075	8 x 0.75 OZ	9.00	5.80	14.30
10080075	8 x 0.75	9.00	5.80	14.30
10080100	8 x 1	9.70	7.70	14.80
10080150	8 x 1.50	10.90	11.50	20.50
10080250	8 x 2.50	13.20	19.20	33.90
10090075	9 x 0.75	9.80	6.50	16.20
10090100	9 x 1	10.40	8.60	18.20
10090150	9 x 1.50	11.40	13.00	24.20
10100050	10 x 0.50	8.60	4.80	14.20
10100075	10 x 0.75	9.75	7.20	18.50
10100100	10 x 1	10.50	9.60	21.00
99100100	10 x 1 OZ	10.50	9.60	21.00
10100150	10 x 1.50	11.80	14.40	25.20
10100250	10 x 2.50	14.60	24.00	37.50
10110150	11 x 1.50	13.30	15.84	29.50
99120050	12 x 0.50 OZ	9.40	5.80	15.00
10120050	12 x 0.50	9.40	5.80	15.00
10120075	12 x 0.75	10.10	8.60	19.10
99120075	12 x 0.75 OZ	10.10	8.60	19.10
10120100	12 x 1	10.60	11.50	23.20
10120150	12 x 1.50	11.10	17.30	31.20
99120150	12 x 1.50 OZ	11.10	17.30	31.20
10120250	12 x 2.50	15.00	28.80	52.20
10120400	12 x 4	19.60	46.10	79.00
10140050	14 x 0.50	10.20	6.70	17.20
10140075	14 x 0.75	11.00	10.08	19.50
10140100	14 x 1	11.50	13.40	27.10
10140150	14 x 1.50	12.90	20.20	34.90
10140250	14 x 2.50	16.10	33.60	58.80
10150075	15 x 0.75	11.20	10.80	22.90
10160050	16 x 0.50	10.50	7.60	17.50
10160100	16 x 1	12.00	15.40	30.00

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10160150	16 x 1.50	13.70	23.00	40.30
10160250	16 x 2.50	18.40	38.40	66.50
10180050	18 x 0.50	11.50	8.60	21.60
10180075	18 x 0.75	12.00	13.00	28.30
10180100	18 x 1	13.00	17.30	32.80
99180100	18 x 1 OZ	13.00	17.30	32.80
10180150	18 x 1.50	14.65	25.90	45.60
10180250	18 x 2.50	18.10	43.20	74.90
10190100	19 x 1	13.90	18.30	34.60
10190075	19 x 0.75	12.20	13.70	26.40
10190150	19 x 1.5	14.70	27.90	44.50
10200075	20 x 0.75	14.26	14.40	32.00
10200100	20 x 1	13.70	19.20	35.70
99200100	20 x 1 OZ	13.70	19.20	35.70
10200150	20 x 1.50	16.40	28.80	50.70
10200250	20 x 2.50	20.80	48.00	83.20
10210050	21 x 0.50	12.80	10.10	24.90
10210075	21 x 0.75	13.30	15.10	29.30
10210100	21 x 1	14.40	20.20	44.40
10210150	21 x 1.50	16.40	30.20	57.30
10210250	21 x 2.50	21.90	50.40	92.80
10250050	25 x 0.50	13.30	12.00	25.70
10250075	25 x 0.75	14.00	18.00	38.80
10250100	25 x 1	14.90	24.00	53.10
10250150	25 x 1.50	17.20	36.00	63.80
10250250	25 x 2.50	21.10	60.00	102.40
10270100	27 x 1.0	15.60	25.90	53.40
10270075	27 x 0.75	14.60	19.50	38.20
10270150	27 x 1.5	17.50	38.90	67.00
10300050	30 x 0.50	14.40	14.40	31.20
10320075	32 x 0.75	15.50	23.00	54.10
10320150	32 x 1.50	20.82	46.10	82.00
10340050	34 x 0.50	15.75	16.30	39.80
10340075	34 x 0.75	16.20	24.50	44.80
10340100	34 x 1	17.50	32.60	54.90
10340150	34 x 1.50	19.70	49.00	72.80

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10340250	34 x 2.50	24.70	81.60	115.00
10370100	37 x 1	16.80	35.52	70.10
10370075	37 x 0.75	16.70	26.60	53.70
10370150	37 x 1.50	20.20	53.28	79.20
10400050	40 x 0.50	17.10	19.20	45.10
10400250	40 x 2.50	29.20	96.00	149.90
10410075	41 x 0.75	17.90	29.60	53.30
10410100	41 x 1	19.10	39.40	66.80
10420050	42 x 0.50	17.50	20.20	47.00
10420075	42 x 0.75	18.00	30.20	55.40
10420100	42 x 1	19.10	40.30	66.40
10420150	42 x 1.50	21.50	60.50	88.80
10420250	42 x 2.50	29.20	100.80	152.50
10500050	50 x 0.50	18.80	24.00	53.50
10500075	50 x 0.75	19.60	36.00	65.50
10500100	50 x 1	21.00	48.00	79.40
10500150	50 x 1.50	23.60	72.00	105.10
10500250	50 x 2.50	32.10	120.00	182.30
10520050	52 x 0.50	19.20	24.96	55.20
10560100	56 x 1	23.20	53.80	96.20
10610050	61 x 0.50	19.70	29.30	60.10
10610075	61 x 0.75	21.10	43.90	87.60
10610100	61 x 1	22.50	58.60	93.40
10610150	61 x 1.50	25.50	87.80	125.90
10610250	61 x 2.50	34.70	146.40	275.00
10650050	65 x 0.50	20.90	31.20	66.80
10650075	65 x 0.75	22.10	46.80	83.70
10650100	65 x 1	23.50	62.40	100.60
10650150	65 x 1.50	26.00	93.60	127.20
10800050	80 x 0.50	23.30	38.40	82.90
10800075	80 x 0.75	26.50	57.60	113.00
10800100	80 x 1	28.20	76.80	135.40
10800150	80 x 1.50	33.00	115.20	189.00
101000050	100 x 0.50	29.00	48.00	98.00
101000075	100 x 0.75	31.40	72.00	132.00
101000100	100 x 1	31.90	96.00	164.40

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101000150	100 x 1.50	38.20	144.00	235.00
101000250	100 x 2.50	46.00	240.00	445.00