FLK…/EZ-DR…



VARIOFACE System Cable With Flat-Ribbon Cable Connector



INTERFACE

Data Sheet
100018_en_02

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1 Description

Using VARIOFACE modules (see INTERFACE catalog), pre-assembled flat-ribbon cables provide a quick and easy connection between the control and field level. The cables are pre-assembled with male connector strips according to IEC 60603-1/DIN 41651 at both ends (1:1 connection). The following number of positions are available in various lengths:

- Unshielded version: 10, 14, 16, 20, 26, 34, 40, and 50 pos.
- Shielded version: 14, 16, 40, and 50 pos.

System Cable Color Code FLK…/EZ-DR…/KONFEK and FLK…/EZ-DR…/KONFEK/S

Number of Wires	PIN	Wire Color
	1	black
	2	brown
	3	red
	4	orange
	5	yellow
	6	green
	7	blue
	8	violet
	9	gray
10-pos.	10	white
	11	white-black
	12	white-brown
	13	white-red
14-pos.	14	white-orange
	15	white-yellow
16-pos.	16	white-green
	17	white-blue
	18	white-violet
	19	white-gray
20-pos.	20	brown-black
	21	brown-red
	22	brown-orange
	23	brown-yellow
	24	brown-green
	25	brown-blue
26-pos.	26	brown-violet
	27	brown-gray
	28	brown-white
	29	green-black
	30	green-brown
	31	green-red
	32	green-orange
	33	green-blue
34-pos.	34	green-violet
	35	green-gray
	36	green-white
	37	yellow-black
	38	yellow-brown
	39	yellow-red
40-pos.	40	yellow-orange
	41	yellow-blue
	42	yellow-violet
	43	yellow-gray
	44	yellow-white
	45	gray-black
	46	gray-brown
	47	gray-red
	48	gray-orange
	49	gray-yellow
50-pos.	50	gray-green

Make sure you always use the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

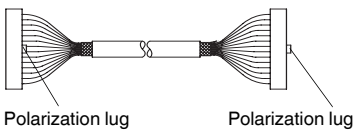
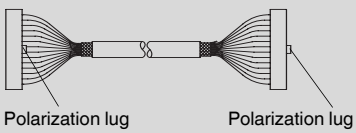
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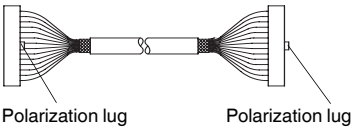
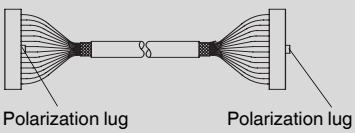
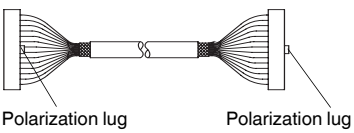
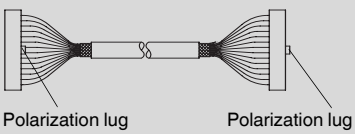
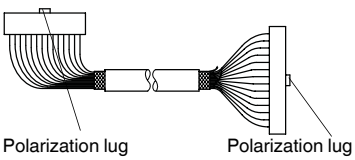
2 Unshielded System Cable With Flat-Ribbon Cable Connector

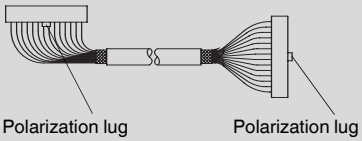
– 1:1 connection
– Pre-assembled round cable in fixed lengths
– Special lengths can be defined using the order key (see page 6)



2.1 Ordering Data

Description	No. of pos.	Cable length	Type	Order No.	Pcs./Pkt
Assembled round cable, with two 10-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	10	0.5 m	FLK 10/EZ-DR/ 50/KONFEK	2299204	1
	10	1.0 m	FLK 10/EZ-DR/100/KONFEK	2299217	1
	10	1.5 m	FLK 10/EZ-DR/150/KONFEK	2299220	1
	10	2.0 m	FLK 10/EZ-DR/200/KONFEK	2299233	1
	10	3.0 m	FLK 10/EZ-DR/300/KONFEK	2299246	1
	10	4.0 m	FLK 10/EZ-DR/400/KONFEK	2299259	1
	10	6.0 m	FLK 10/EZ-DR/600/KONFEK	2299262	1
	10	8.0 m	FLK 10/EZ-DR/800/KONFEK	2299275	1
	10	10.0 m	FLK 10/EZ-DR/1000/KONFEK	2299288	1
Assembled round cable, with two 14-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	14	0.3 m	FLK 14/EZ-DR/ 30/KONFEK	2295729	5
	14	0.5 m	FLK 14/EZ-DR/ 50/KONFEK	2288901	5
	14	1.0 m	FLK 14/EZ-DR/100/KONFEK	2288914	1
	14	1.5 m	FLK 14/EZ-DR/150/KONFEK	2288927	1
	14	2.0 m	FLK 14/EZ-DR/200/KONFEK	2288930	1
	14	2.5 m	FLK 14/EZ-DR/250/KONFEK	2288943	1
	14	3.0 m	FLK 14/EZ-DR/300/KONFEK	2288956	1
	14	3.5 m	FLK 14/EZ-DR/350/KONFEK	2288969	1
	14	4.0 m	FLK 14/EZ-DR/400/KONFEK	2288972	1
	14	4.5 m	FLK 14/EZ-DR/450/KONFEK	2290847	1
	14	5.0 m	FLK 14/EZ-DR/500/KONFEK	2290834	1
	14	5.5 m	FLK 14/EZ-DR/550/KONFEK	2290850	1
	14	6.0 m	FLK 14/EZ-DR/600/KONFEK	2290863	1
	14	8.0 m	FLK 14/EZ-DR/800/KONFEK	2299563	1
	14	10.0 m	FLK 14/EZ-DR/1000/KONFEK	2299576	1

Description	No. of pos.	Cable length	Type	Order No.	Pcs./Pkt
Assembled round cable, with two 16-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	16	0.5 m	FLK 16/EZ-DR/ 50/KONFEK	2299291	1
	16	1.0 m	FLK 16/EZ-DR/100/KONFEK	2299301	1
	16	1.5 m	FLK 16/EZ-DR/150/KONFEK	2299314	1
	16	2.0 m	FLK 16/EZ-DR/200/KONFEK	2299327	1
	16	3.0 m	FLK 16/EZ-DR/300/KONFEK	2299330	1
	16	4.0 m	FLK 16/EZ-DR/400/KONFEK	2299343	1
	16	6.0 m	FLK 16/EZ-DR/600/KONFEK	2299356	1
	16	8.0 m	FLK 16/EZ-DR/800/KONFEK	2299369	1
	16	10.0 m	FLK 16/EZ-DR/1000/KONFEK	2299372	1
Assembled round cable, with two 20-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	20	0.5 m	FLK 20/EZ-DR/ 50/KONFEK	2296391	1
	20	1.0 m	FLK 20/EZ-DR/100/KONFEK	2296401	1
	20	1.5 m	FLK 20/EZ-DR/150/KONFEK	2296472	1
	20	2.0 m	FLK 20/EZ-DR/200/KONFEK	2296485	1
	20	3.0 m	FLK 20/EZ-DR/300/KONFEK	2296498	1
	20	4.0 m	FLK 20/EZ-DR/400/KONFEK	2296508	1
	20	6.0 m	FLK 20/EZ-DR/600/KONFEK	2296511	1
	20	8.0 m	FLK 20/EZ-DR/800/KONFEK	2296524	1
	20	10.0 m	FLK 20/EZ-DR/1000/KONFEK	2296537	1
Assembled round cable, with two 26-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	26	0.5 m	FLK 26/EZ-DR/ 50/KONFEK	2299385	1
	26	1.0 m	FLK 26/EZ-DR/100/KONFEK	2299398	1
	26	1.5 m	FLK 26/EZ-DR/150/KONFEK	2299408	1
	26	2.0 m	FLK 26/EZ-DR/200/KONFEK	2299411	1
	26	3.0 m	FLK 26/EZ-DR/300/KONFEK	2299424	1
	26	4.0 m	FLK 26/EZ-DR/400/KONFEK	2299437	1
	26	6.0 m	FLK 26/EZ-DR/600/KONFEK	2299440	1
	26	8.0 m	FLK 26/EZ-DR/800/KONFEK	2299453	1
	26	10.0 m	FLK 26/EZ-DR/1000/KONFEK	2299466	1
Assembled round cable, with two 34-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  Polarization lug Polarization lug	34	0.5 m	FLK 34/EZ-DR/ 50/KONFEK	2299479	1
	34	1.0 m	FLK 34/EZ-DR/100/KONFEK	2299482	1
	34	1.5 m	FLK 34/EZ-DR/150/KONFEK	2299495	1
	34	2.0 m	FLK 34/EZ-DR/200/KONFEK	2299505	1
	34	3.0 m	FLK 34/EZ-DR/300/KONFEK	2299518	1
	34	4.0 m	FLK 34/EZ-DR/400/KONFEK	2299521	1
	34	6.0 m	FLK 34/EZ-DR/600/KONFEK	2299534	1
	34	8.0 m	FLK 34/EZ-DR/800/KONFEK	2299547	1
	34	10.0 m	FLK 34/EZ-DR/1000/KONFEK	2299550	1
Assembled round cable, with two 40-pos. socket strips in fixed lengths Socket strips fitted, straight at one end and angled at the other:  Polarization lug Polarization lug	40	0.5 m	FLK 40/EZ-DR/ 50/KONFEK	2288985	5
	40	1.0 m	FLK 40/EZ-DR/100/KONFEK	2288998	1
	40	1.5 m	FLK 40/EZ-DR/150/KONFEK	2289007	1
	40	2.0 m	FLK 40/EZ-DR/200/KONFEK	2289010	1
	40	2.5 m	FLK 40/EZ-DR/250/KONFEK	2289023	1
	40	3.0 m	FLK 40/EZ-DR/300/KONFEK	2289036	1
	40	3.5 m	FLK 40/EZ-DR/350/KONFEK	2289049	1
	40	4.0 m	FLK 40/EZ-DR/400/KONFEK	2289052	1
	40	6.0 m	FLK 40/EZ-DR/600/KONFEK	2299589	1
	40	8.0 m	FLK 40/EZ-DR/800/KONFEK	2299592	1
	40	10.0 m	FLK 40/EZ-DR/1000/KONFEK	2299602	1

Description	No. of pos.	Cable length	Type	Order No.	Pcs./Pkt
Assembled round cable, with two 50-pos. socket strips in fixed lengths Socket strips fitted, straight at one end and angled at the other:  	50	0.5 m	FLK 50/EZ-DR/ 50/KONFEK	2289065	5
	50	1.0 m	FLK 50/EZ-DR/100/KONFEK	2289078	1
	50	1.5 m	FLK 50/EZ-DR/150/KONFEK	2289081	1
	50	2.0 m	FLK 50/EZ-DR/200/KONFEK	2289094	1
	50	2.5 m	FLK 50/EZ-DR/250/KONFEK	2289104	1
	50	3.0 m	FLK 50/EZ-DR/300/KONFEK	2289117	1
	50	3.5 m	FLK 50/EZ-DR/350/KONFEK	2289120	1
	50	4.0 m	FLK 50/EZ-DR/400/KONFEK	2289133	1
	50	4.5 m	FLK 50/EZ-DR/450/KONFEK	2289573	1
	50	5.0 m	FLK 50/EZ-DR/500/KONFEK	2289586	1
	50	5.5 m	FLK 50/EZ-DR/550/KONFEK	2289599	1
	50	6.0 m	FLK 50/EZ-DR/600/KONFEK	2289609	1
	50	6.5 m	FLK 50/EZ-DR/650/KONFEK	2289612	1
	50	7.0 m	FLK 50/EZ-DR/700/KONFEK	2289625	1
	50	7.5 m	FLK 50/EZ-DR/750/KONFEK	2289638	1
	50	8.0 m	FLK 50/EZ-DR/800/KONFEK	2289641	1
	50	8.5 m	FLK 50/EZ-DR/850/KONFEK	2289654	1
	50	9.0 m	FLK 50/EZ-DR/900/KONFEK	2289667	1
	50	9.5 m	FLK 50/EZ-DR/950/KONFEK	2289670	1
	50	10.0 m	FLK 50/EZ-DR/1000/KONFEK	2289683	1

2.2 Technical Data

General Data		
Maximum permissible operating voltage		< 50 V AC / 60 V DC
Maximum permissible current carrying capacity per path		1 A
Maximum conductor resistance		≤ 0.16 Ω/m
Ambient temperature range		
Operation		-20°C ... +50°C
Storage/transport		-20°C ... +70°C
Conductor cross section		0.14 mm^2 (AWG 26)
Conductor construction		7 Litz wires, Cu tin-plated
Outside diameter		
	10-pos.	6.0 mm
	14-pos.	6.4 mm
	16-pos.	7.0 mm
	20-pos.	7.6 mm
	26-pos.	7.8 mm
	34-pos.	10.0 mm
	40-pos.	10.0 mm
	50-pos.	10.3 mm
Assembly		Insulation displacement, IEC 60352-4/DIN EN 60352-4

Approvals	
UL, CUL	2 A; 125 V

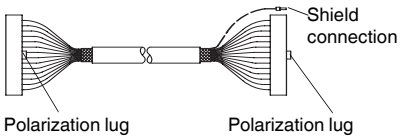
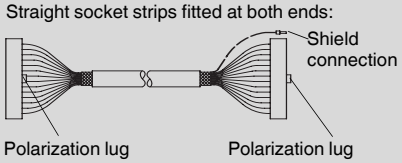
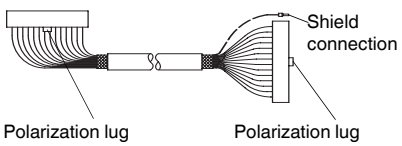
3 Shielded System Cable With Flat-Ribbon Cable Connector

– 1:1 connection,
– Pre-assembled round cable in fixed lengths
– Special lengths can be defined using the order key (see page 6).

With shielded cables, a cable end with ferrule is also available as a shield connection (length: 0.5 m, approximately; cable: HO5 V-K 1 mm^2, black).



3.1 Ordering Data

Description	No. of pos.	Cable length	Type	Order No.	Pcs./Pkt
Assembled round cable, with two 14-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  	14	0.5 m	FLK 14/EZ-DR/ 50/KONFEK/S	2296977	1
	14	1.0 m	FLK 14/EZ-DR/100/KONFEK/S	2296980	1
	14	1.5 m	FLK 14/EZ-DR/150/KONFEK/S	2296993	1
	14	2.0 m	FLK 14/EZ-DR/200/KONFEK/S	2297002	1
	14	3.0 m	FLK 14/EZ-DR/300/KONFEK/S	2299013	1
	14	4.0 m	FLK 14/EZ-DR/400/KONFEK/S	2299026	1
	14	6.0 m	FLK 14/EZ-DR/600/KONFEK/S	2299039	1
	14	8.0 m	FLK 14/EZ-DR/800/KONFEK/S	2299042	1
	14	10.0 m	FLK 14/EZ-DR/1000/KONFEK/S	2299055	1
Assembled round cable, with two 16-pos. socket strips in fixed lengths Straight socket strips fitted at both ends:  	16	0.5 m	FLK 16/EZ-DR/ 50/KONFEK/S	2318075	1
	16	1.0 m	FLK 16/EZ-DR/ 100/KONFEK/S	2304542	1
	16	1.5 m	FLK 16/EZ-DR/ 150/KONFEK/S	2304623	1
	16	2.0 m	FLK 16/EZ-DR/ 200/KONFEK/S	2304555	1
	16	3.0 m	FLK 16/EZ-DR/ 300/KONFEK/S	2318088	1
	16	4.0 m	FLK 16/EZ-DR/ 400/KONFEK/S	2318091	1
	16	5.0 m	FLK 16/EZ-DR/ 500/KONFEK/S	2318952	1
	16	6.0 m	FLK 16/EZ-DR/ 600/KONFEK/S	2314477	1
	16	8.0 m	FLK 16/EZ-DR/ 800/KONFEK/S	2318101	1
	16	10.0 m	FLK 16/EZ-DR/1000/KONFEK/S	2318114	1
Assembled round cable, with two 50-pos. socket strips in fixed lengths Socket strips fitted, straight at one end and angled at the other:  	50	0.5 m	FLK 50/EZ-DR/ 50/KONFEK/S	2299097	1
	50	1.0 m	FLK 50/EZ-DR/100/KONFEK/S	2299107	1
	50	1.5 m	FLK 50/EZ-DR/150/KONFEK/S	2299110	1
	50	2.0 m	FLK 50/EZ-DR/200/KONFEK/S	2299123	1
	50	3.0 m	FLK 50/EZ-DR/300/KONFEK/S	2299136	1
	50	4.0 m	FLK 50/EZ-DR/400/KONFEK/S	2299149	1
	50	6.0 m	FLK 50/EZ-DR/600/KONFEK/S	2299152	1
	50	8.0 m	FLK 50/EZ-DR/800/KONFEK/S	2299165	1
	50	10.0 m	FLK 50/EZ-DR/1000/KONFEK/S	2299178	1

3.2 Technical Data

General Data	
Maximum permissible operating voltage	< 50 V AC / 60 V DC
Maximum permissible current carrying capacity per path	1 A
Maximum conductor resistance	≤ 0.16 Ω/m
Ambient temperature range	
Operation	-20°C ... +50°C
Storage/transport	-20°C ... +70°C
Conductor cross section	0.14 mm² (AWG 26)
Conductor construction	7 Litz wires, Cu tin-plated
Shield	Tinned copper-braided shield
Outside diameter	
14-pos.	6.7 mm
16-pos.	7.5 mm
50-pos.	11.0 mm
Assembly	Insulation displacement, IEC 60352-4/DIN EN 60352-4

Approvals	
UL, CUL	Applied for

4 Special Lengths

Preprinted round cables are used to connect the PLC front adapters to the corresponding VARIOFACE controller boards. Plug connector strips are fitted on both ends of the cables in accordance with IEC 60603-13/DIN 41651. For shielded cables, a cable end with a ferrule is available additionally as a shielded connection (length: approx. 0.5 m; cable H05V-K 1 mm², black).

The order code for special lengths is defined by three features.

The features listed in the corresponding order are as follows:

– cable type,
– assembly,
– length in meters.

There are two order keys, one for unshielded round cables, FLK EZ-DR/.../.../... and one for shielded round cables, FLK EZ-DR-S/.../.../... The features necessary to clearly identify an order are described below:

Cable Type

This specifies the number of individual wires in the cable.

Assembly

– none,
the ends of the cables are not preassembled;
– 10-pos. female connector at both ends,
10-pos. plug connectors are fitted at both ends of the cable (1:1 connection);
– 14-pos. female connector at both ends,
14-pos. plug connectors are fitted at both ends of the cable (1:1 connection);

etc. up to

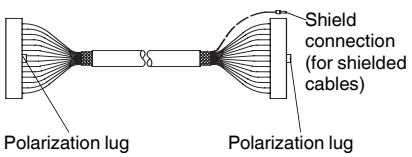
– 50-pos. female connector at both ends,
50-pos. plug connectors are fitted at both ends of the cable (1:1 connection);
– 14-pos. female connector at one end,
16-pos. female connector at one end,
the cable is assembled at one end with a 14-pos. plug connector and at the other end with a 16-pos. plug connector (for SIMATIC S7; no 1:1 connection).

4.1 Features of Permissible Assemblies

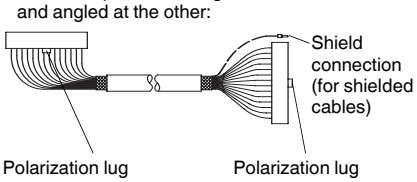
Cable type / Assembly	Unshielded round cables FLK EZ-DR.../.../...							
	10-pos.	14-pos.	16-pos.	20-pos.	26-pos.	34-pos.	40-pos.	50-pos.
No assembly	**10U/C00/...**	**14U/C00/...**	**16U/C00/...**	**20U/C00/...**	**26U/C00/...**	**34U/C00/...**	**40U/C00/...**	**50U/C00/...**
10-pos. socket strip at both ends	**10U/C55/...**[1]							
14-pos. socket strip at both ends		**14U/C23/...**[1]						
16-pos. socket strip at both ends			**16U/C58/...**[1]					
20-pos. socket strip at both ends				**20U/C61/...**[1]				
26-pos. socket strip at both ends					**26U/C63/...**[1]			
34-pos. socket strip at both ends						**34U/C65/...**[1]		
40-pos. socket strip at both ends							**40U/C30/...**[3]	
50-pos. socket strip at both ends								**50U/C38/...**[2]
14-pos. socket strip at one end; 16-pos. socket strip at one end		**14U/C52/...**[1]						

Cable type / Assembly	Shielded round cables FLK EZ-DR-S.../.../...							
		14-pos.	16-pos.				40-pos.	50-pos.
No assembly		**14S/C00/...**	**16/S/C00/...**				**40S/C00/...**	**50S/C00/...**
10-pos. socket strip at both ends								
14-pos. socket strip at both ends		**14S/C23/...**[1]						
16-pos. socket strip at both ends			**16/S/C58/...**[1]					
20-pos. socket strip at both ends								
26-pos. socket strip at both ends								
34-pos. socket strip at both ends								
40-pos. socket strip at both ends							**40S/C30/...**[3]	
50-pos. socket strip at both ends								**50S/C38/...**[2]
14-pos. socket strip at one end; 16-pos. socket strip at one end		**14S/C52/...**[1]						

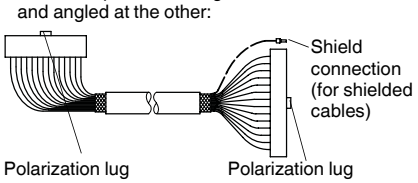
[1] Straight socket strips fitted at both ends:



[2] Socket strips fitted, straight at one end and angled at the other:



[3] Socket strips fitted, straight at one end and angled at the other:



4.2 Ordering Data for Round Cables in Special Lengths

Description	Type	Order No.	Pcs./Pkt
Assembled round cables, with socket strips in variable lengths			
Unshielded	FLK EZ-DR.../.../...	2295059	1
Shielded	FLK EZ-DR-S.../.../...	2295046	1

4.3 Sample Order for Unshielded Round Cable

Unshielded 50-pos. round cable, assembled with two 50-pos. female connectors, 11.5 m long

Piece	Order No.		Cable type		Assembly		Length [m]
1	2295059	/	50U	/	C38	/	11,50
			10U ≙ 10- pos., unshielded		**C00** ≙ no assembly		
			14U ≙ 14-pos., unshielded		**C55** ≙ 10-pos. socket strip at both ends		(0.20 m, min.)
			16U ≙ 16-pos., unshielded		**C23** ≙ 14-pos. socket strip at both ends		
			20U ≙ 20-pos., unshielded		**C52** ≙ 14-pos. socket strip at one end, 16-pos. socket strip at one end (for S7)		
			26U ≙ 26-pos., unshielded		**C58** ≙ 16-pos. socket strip at both ends		
			34U ≙ 34-pos., unshielded		**C61** ≙ 20-pos. socket strip at both ends		
			40U ≙ 40-pos., unshielded		**C63** ≙ 26-pos. socket strip at both ends		
			50U ≙ 50-pos., unshielded		**C65** ≙ 34-pos. socket strip at both ends		
					C30 ≙ 40-pos. socket strip at both ends		
					C38 ≙ 50-pos. socket strip at both ends		

4.4 Sample Order for Shielded Round Cable

Unshielded 14-pos. round cable, assembled with two 14-pos. female connectors, 12.75 m long

Piece	Order No.		Cable type		Assembly		Length [m]
1	2295046	/	14S	/	C23	/	12,75
			14S ≙ 14-pos., shielded		**C00** ≙ no assembly		
			40S ≙ 40-pos., shielded		**C23** ≙ 14-pos. socket strip at both ends		(0.20 m, min.)
			50S ≙ 50-pos., shielded		**C52** ≙ 14-pos. socket strip at one end, 16-pos. socket strip at one end (for S7)		
					C58 ≙ 16-pos. socket strip at both ends		
					C30 ≙ 40-pos. socket strip at both ends		
					C38 ≙ 50-pos. socket strip at both ends		

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