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## System Cables for Mitsubishi Melsec Q FLK 50/EZ-DR/D37SUB/... CABLE-D37-M2,5/4x14/...

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### 1. Short Description

These system cables are specifically designed for Mitsubishi I/O cards with a 37-pos. D-SUB male connector. Connecting cables are available to provide easy and industrially hardened wiring for all 32 signals including the power supply using a module.

A second version is also available in the form of splitting cables, which have a 37-pos. D-SUB female connector at one end and four 14-pos. flat-ribbon cable strips at the other end (transmitting 4 x 8 channels including the power supply connections).

Any 8-channel system cabling components can be coupled to these 14-pos. flat-ribbon cable strips, i.e., 1:1 transmission modules, relay or optocoupler modules, and PLC V8 adapters can be used depending on the application.



## 2. Technical Data

### 2.1. System Cables for Transmitting 32 Channels

These cables are connected to 32-channel I/O cards with a 37-pos. D-SUB connection. They can be used to connect any 32-channel system cabling modules.

The cables have the following features:

- D-SUB female connector with M 2.5 threaded joint at one end and 50-pos. flat-ribbon cable strip at the other end
- Unshielded cable
- D-SUB enclosure: straight cable outlet, metal



### FLK 50/EZ-DR/D37SUB/.../Y81P-O unshielded

Description	Cable Length [m]
<b>Round cable,</b> for MELSEC Q Y81 P	0.5 m (1.64 ft.)
for MELSEC A1S Y81	1.0 m (3.28 ft.)
for MELSEC A AY82EP	2.0 m (6.56 ft.)
	3.0 m (9.84 ft.)
<b>Round cable,</b> for MELSEC Q X81	0.5 m (1.64 ft.)
for MELSEC A1S X81	1.0 m (3.28 ft.)
for MELSEC A AX82	2.0 m (6.56 ft.)
	3.0 m (9.84 ft.)

#### Technical Data

Maximum permissible operating voltage  
 Maximum permissible current carrying capacity per path  
 Maximum conductor resistance  
 Ambient operating temperature range  
 Cable cross section  
 Cable structure  
 Outside diameter  
 Approvals

Type	Order No.	Pcs. Pkt.
FLK 50/EZ-DR/D37SUB/50/Y81P-O	23 02 59 9	1
FLK 50/EZ-DR/D37SUB/100/Y81P-O	23 02 26 9	1
FLK 50/EZ-DR/D37SUB/200/Y81P-O	23 02 61 2	1
FLK 50/EZ-DR/D37SUB/300/Y81P-O	23 02 63 8	1
FLK 50/EZ-DR/D37SUB-Y81P-O.. <sup>1)</sup>	23 02 62 5 <sup>2)</sup>	1
FLK 50/EZ-DR/D37SUB/50/Y81P-O	23 02 64 1	1
FLK 50/EZ-DR/D37SUB/100/Y81P-O	23 02 65 4	1
FLK 50/EZ-DR/D37SUB/200/Y81P-O	23 02 66 7	1
FLK 50/EZ-DR/D37SUB/300/Y81P-O	23 02 67 0	1
FLK 50/EZ-DR/D37SUB-X81-I/... <sup>1)</sup>	23 02 68 3 <sup>2)</sup>	1

<sup>1)</sup>Please specify cable length, see order example.

<sup>2)</sup>Product order number.

60 V AC/DC  
 1 A  
 ≤ 0.16 Ω/m  
 -20°C to +50°C (-4°F to +122°F)  
 0.14 mm<sup>2</sup> (26 AWG)  
 7 stranded wires, tin-plated Cu  
 10.5 mm (0.413 in.)  
 U applied for

Items in bold print can be delivered straight away

Dimensional diagram of the D-SUB connector

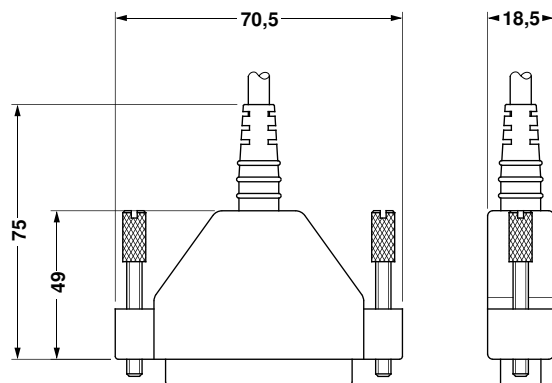
### Ordering Key for System Cables

Cable Type	Cable Length in Meters
FLK 50-EZ-DR-D37SUB-Y81P-O	Maximum of 2 decimal places (please always specify both)
FLK 50-EZ-DR-D37SUB-X81-I	

### Order Example for System Cables

- Cable for Melsec Q Y81 P; 12.75 m (41.83 ft.) long

Cable Type	Cable Length in Meters
FLK 50-EZ-DR-D37SUB-Y81P-O	12.75 m (41.83 ft.)



## 2.2. System Cables for Transmitting 4 x 8 Channels

These cables are connected to 32-channel I/O cards with a 37-pos. D-SUB connection. They provide splitting into 4 x 8 channels. This means that any 8-channel VARIOFACE modules and PLC V8 adapters for PLC-INTERFACE can be connected.

The cables have the following features:

- D-SUB female connector with M 2.5 threaded joint at one end and four 14-pos. flat-ribbon cable strips at the other end
- Unshielded cable
- D-SUB enclosure: straight cable outlet, metal



### CABLE-D 37-M2,5/4x14/.../... unshielded

Description	Cable Length [m]
<b>Round cable,</b>	0.5 m (1.64 ft.)
for MELSEC Q Y81 P	1.0 m (3.28 ft.)
for MELSEC A1S Y81	2.0 m (6.56 ft.)
for MELSEC A AY82EP	3.0 m (9.84 ft.)
<b>Round cable,</b>	0.5 m (1.64 ft.)
for MELSEC Q X81	1.0 m (3.28 ft.)
for MELSEC A1S X81	2.0 m (6.56 ft.)
for MELSEC A AX82	3.0 m (9.84 ft.)

#### Technical Data

Maximum permissible operating voltage  
 Maximum permissible current carrying capacity per path  
 Maximum conductor resistance  
 Ambient operating temperature range  
 Cable cross section  
 Cable structure  
 Outside diameter 4 x 14-pos.  
 Cable assembly  
 Approvals

Type	Order No.	Pcs. Pkt.
CABLE-D 37-M2,5/4X14/50/Y81P-O	23 02 47 6	1
<b>CABLE-D 37-M2,5/4X14/100/Y81P-O</b>	<b>23 02 48 9</b>	1
<b>CABLE-D 37-M2,5/4X14/200/Y81P-O</b>	<b>23 02 49 2</b>	1
CABLE-D 37-M2,5/4X14/300/Y81P-O	23 02 50 2	1
CABLE-D 37-M2,5/4X14-Y81P-O... <sup>3)</sup>	<b>23 02 69 6<sup>4)</sup></b>	1
CABLE-D 37-M2,5/4X14/50/X81-I	23 02 51 5	1
<b>CABLE-D 37-M2,5/4X14/100/X81-I</b>	<b>23 02 52 8</b>	1
<b>CABLE-D 37-M2,5/4X14/200/X81-I</b>	<b>23 02 53 1</b>	1
CABLE-D 37-M2,5/4X14/300/X81-I	23 02 54 4	1
CABLE-D 37-M2,5/4X14-X81-I/... <sup>3)</sup>	23 0270 6 <sup>4)</sup>	1

<sup>3)</sup>Please specify cable length, see order example.

<sup>4)</sup>Product order number.

60 V AC/DC  
 1 A  
 $\leq 0.16 \Omega/\text{m}$   
 -20°C to +50°C (-4°F to +122°F)  
 0.14 mm<sup>2</sup> (26 AWG)  
 7 stranded wires, tin-plated Cu  
 6.3 mm (0.248 in.) per line  
 Insulation displacement connector method IEC 352-4/DIN EN 60 352-4  
 U applied for

Items in bold print can be delivered straight away

Dimensional diagram of the D-SUB connector

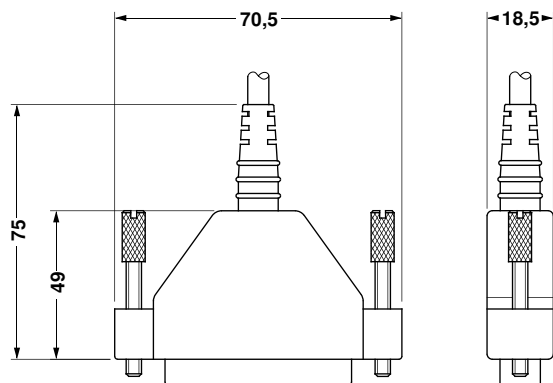
#### Ordering Key for Splitting Cables

Cable Type	Cable Length in Meters
CABLE-D 37-M2,5/4X14-Y81P-O	Maximum of 2 decimal places
CABLE-D 37-M2,5/4X14-X81-I	(please always specify both)

#### Order Example for Splitting Cables

- Cable for Melsec Q Y81 P; 12.75 m (41.83 ft.) long

Cable Type	Cable Length in Meters
<b>CABLE-D 37-M2,5/4X14-Y81P-O</b>	<b>12.75 m (41.83 ft.)</b>



### 3. Color Code With Pin Assignment

CABLE-D37-M2,5/4x14/.../X81-I			
FLK 14 Male Connectors	Wire Color		37-pos. D-SUB Female Connector
<b>Byte 0</b>	PIN 1	Black (BK)	PIN 1
	PIN 2	Brown (BN)	PIN 20
	PIN 3	Red (RD)	PIN 2
	PIN 4	Orange (OG)	PIN 21
	PIN 5	Yellow (YE)	PIN 3
	PIN 6	Green (GN)	PIN 22
	PIN 7	Blue (BU)	PIN 4
	PIN 8	Violet (VT)	PIN 23
	PIN 10	Gray (GY)	PIN 17
	<b>Byte 1</b>	PIN 1	Black (BK)
PIN 2		Brown (BN)	PIN 24
PIN 3		Red (RD)	PIN 6
PIN 4		Orange (OG)	PIN 25
PIN 5		Yellow (YE)	PIN 7
PIN 6		Green (GN)	PIN 26
PIN 7		Blue (BU)	PIN 8
PIN 8		Violet (VT)	PIN 27
PIN 10		Gray (GY)	PIN 17
<b>Byte 2</b>		PIN 1	Black (BK)
	PIN 2	Brown (BN)	PIN 28
	PIN 3	Red (RD)	PIN 10
	PIN 4	Orange (OG)	PIN 29
	PIN 5	Yellow (YE)	PIN 11
	PIN 6	Green (GN)	PIN 30
	PIN 7	Blue (BU)	PIN 12
	PIN 8	Violet (VT)	PIN 31
	PIN 10	Gray (GY)	PIN 18
	<b>Byte 3</b>	PIN 1	Black (BK)
PIN 2		Brown (BN)	PIN 32
PIN 3		Red (RD)	PIN 14
PIN 4		Orange (OG)	PIN 33
PIN 5		Yellow (YE)	PIN 15
PIN 6		Green (GN)	PIN 34
PIN 7		Blue (BU)	PIN 16
PIN 8		Violet (VT)	PIN 35
PIN 10		Gray (GY)	PIN 36

CABLE-D37-M2,5/4x14/.../Y81P-O			
FLK 14 Male Connectors	Wire Color		37-pos. D-SUB Female Connector
<b>Byte 0</b>	PIN 1	Black (BK)	PIN 1
	PIN 2	Brown (BN)	PIN 20
	PIN 3	Red (RD)	PIN 2
	PIN 4	Orange (OG)	PIN 21
	PIN 5	Yellow (YE)	PIN 3
	PIN 6	Green (GN)	PIN 22
	PIN 7	Blue (BU)	PIN 4
	PIN 8	Violet (VT)	PIN 23
	PIN 9	Gray (GY)	PIN 17
	PIN 10	White (WH)	PIN 19
	PIN 11	White/black (WH/BK)	PIN 18
	PIN 13	White/brown (WH/BN)	PIN 36
	<b>Byte 1</b>	PIN 1	Black (BK)
PIN 2		Brown (BN)	PIN 24
PIN 3		Red (RD)	PIN 6
PIN 4		Orange (OG)	PIN 25
PIN 5		Yellow (YE)	PIN 7
PIN 6		Green (GN)	PIN 26
PIN 7		Blue (BU)	PIN 8
PIN 8		Violet (VT)	PIN 27
PIN 9		Gray (GY)	PIN 17
PIN 10		White (WH)	PIN 19
PIN 11		White/black (WH/BK)	PIN 18
PIN 13		White/brown (WH/BN)	PIN 36
<b>Byte 2</b>		PIN 1	Black (BK)
	PIN 2	Brown (BN)	PIN 28
	PIN 3	Red (RD)	PIN 10
	PIN 4	Orange (OG)	PIN 29
	PIN 5	Yellow (YE)	PIN 11
	PIN 6	Green (GN)	PIN 30
	PIN 7	Blue (BU)	PIN 12
	PIN 8	Violet (VT)	PIN 31
	PIN 9	Gray (GY)	PIN 17
	PIN 10	White (WH)	PIN 37
	PIN 11	White/black (WH/BK)	PIN 18
	PIN 13	White/brown (WH/BN)	PIN 36
	<b>Byte 3</b>	PIN 1	Black (BK)
PIN 2		Brown (BN)	PIN 32
PIN 3		Red (RD)	PIN 14
PIN 4		Orange (OG)	PIN 33
PIN 5		Yellow (YE)	PIN 15
PIN 6		Green (GN)	PIN 34
PIN 7		Blue (BU)	PIN 16
PIN 8		Violet (VT)	PIN 35
PIN 9		Gray (GY)	PIN 17
PIN 10		White (WH)	PIN 37
PIN 11		White/black (WH/BK)	PIN 18
PIN 13		White/brown (WH/BN)	PIN 36

FLK 50/EZ-DR/DR37SUB/.../X81-I			
FLK 50 Male Connectors	Wire Color		37-pos. D-SUB Female Connector
PIN 3	Black	(BK)	PIN 1
PIN 4	Brown	(BN)	PIN 20
PIN 5	Red	(RD)	PIN 2
PIN 6	Orange	(OG)	PIN 21
PIN 7	Yellow	(YE)	PIN 3
PIN 8	Green	(GN)	PIN 22
PIN 9	Blue	(BU)	PIN 4
PIN 10	Violet	(VT)	PIN 23
PIN 11	Gray	(GY)	PIN 17
PIN 12	White	(WH)	PIN 18
PIN 15	White/black	(WH/BK)	PIN 5
PIN 16	White/brown	(WH/BN)	PIN 24
PIN 17	White/red	(WH/RD)	PIN 6
PIN 18	White/orange	(WH/OG)	PIN 25
PIN 19	White/yellow	(WH/YE)	PIN 7
PIN 20	White/green	(WH/GN)	PIN 26
PIN 21	White/blue	(WH/BU)	PIN 8
PIN 22	White/violet	(WH/VT)	PIN 27
PIN 23	White/gray	(WH/GY)	PIN 17
PIN 24	Brown/black	(BN/BK)	PIN 18
PIN 27	Brown/red	(BN/RD)	PIN 9
PIN 28	Brown/orange	(BN/OG)	PIN 28
PIN 29	Brown/yellow	(BN/YE)	PIN 10
PIN 30	Brown/green	(BN/GN)	PIN 29
PIN 31	Brown/blue	(BN/BU)	PIN 11
PIN 32	Brown/violet	(BN/VT)	PIN 30
PIN 33	Brown/gray	(BN/GY)	PIN 12
PIN 34	Brown/white	(BN/WH)	PIN 31
PIN 35	Green/black	(GN/BK)	PIN 17
PIN 36	Green/brown	(GN/BN)	PIN 18
PIN 39	Green/red	(GN/RD)	PIN 13
PIN 40	Green/orange	(GN/OG)	PIN 32
PIN 41	Green/blue	(GN/BU)	PIN 14
PIN 42	Green/violet	(GN/VT)	PIN 33
PIN 43	Green/gray	(GN/GY)	PIN 15
PIN 44	Green/white	(GN/WH)	PIN 34
PIN 45	Yellow/black	(YE/BK)	PIN 16
PIN 46	Yellow/brown	(YE/BN)	PIN 35
PIN 47	Yellow/red	(YE/RD)	PIN 36
PIN 48	Yellow/orange	(YE/OG)	PIN 36

FLK 50/EZ-DR/DR37SUB/.../Y81P-O			
FLK 50 Male Connectors	Wire Color		37-pos. D-SUB Female Connector
PIN 1	Black	(BK)	PIN 17
PIN 2	Brown	(BN)	PIN 18
PIN 3	Red	(RD)	PIN 1
PIN 4	Orange	(OG)	PIN 20
PIN 5	Yellow	(YE)	PIN 2
PIN 6	Green	(GN)	PIN 21
PIN 7	Blue	(BU)	PIN 3
PIN 8	Violet	(VT)	PIN 22
PIN 9	Gray	(GY)	PIN 4
PIN 10	White	(WH)	PIN 23
PIN 11	White/black	(WH/BK)	PIN 19
PIN 12	White/brown	(WH/BN)	PIN 37
PIN 13	White/red	(WH/RD)	PIN 17
PIN 14	White/orange	(WH/OG)	PIN 18
PIN 15	White/yellow	(WH/YE)	PIN 5
PIN 16	White/green	(WH/GN)	PIN 24
PIN 17	White/blue	(WH/BU)	PIN 6
PIN 18	White/violet	(WH/VT)	PIN 25
PIN 19	White/gray	(WH/GY)	PIN 7
PIN 20	Brown/black	(BN/BK)	PIN 26
PIN 21	Brown/red	(BN/RD)	PIN 8
PIN 22	Brown/orange	(BN/OG)	PIN 27
PIN 23	Brown/yellow	(BN/YE)	PIN 19
PIN 24	Brown/green	(BN/GN)	PIN 37
PIN 25	Brown/blue	(BN/BU)	PIN 17
PIN 26	Brown/violet	(BN/VT)	PIN 36
PIN 27	Brown/gray	(BN/GY)	PIN 9
PIN 28	Brown/white	(BN/WH)	PIN 28
PIN 29	Green/black	(GN/BK)	PIN 10
PIN 30	Green/brown	(GN/BN)	PIN 29
PIN 31	Green/red	(GN/RD)	PIN 11
PIN 32	Green/orange	(GN/OG)	PIN 30
PIN 33	Green/blue	(GN/BU)	PIN 12
PIN 34	Green/violet	(GN/VT)	PIN 31
PIN 35	Green/gray	(GN/GY)	PIN 19
PIN 36	Green/white	(GN/WH)	PIN 37
PIN 37	Yellow/black	(YE/BK)	PIN 36
PIN 38	Yellow/brown	(YE/BN)	PIN 18
PIN 39	Yellow/red	(YE/RD)	PIN 13
PIN 40	Yellow/orange	(YE/OG)	PIN 32
PIN 41	Yellow/blue	(YE/BU)	PIN 14
PIN 42	Yellow/violet	(YE/VT)	PIN 33
PIN 43	Yellow/gray	(YE/GY)	PIN 15
PIN 44	Yellow/white	(YE/WH)	PIN 34
PIN 45	Gray/black	(GY/BK)	PIN 16
PIN 46	Gray/brown	(GY/BN)	PIN 35
PIN 47	Gray/red	(GY/RD)	PIN 19
PIN 48	Gray/orange	(GY/OG)	PIN 37