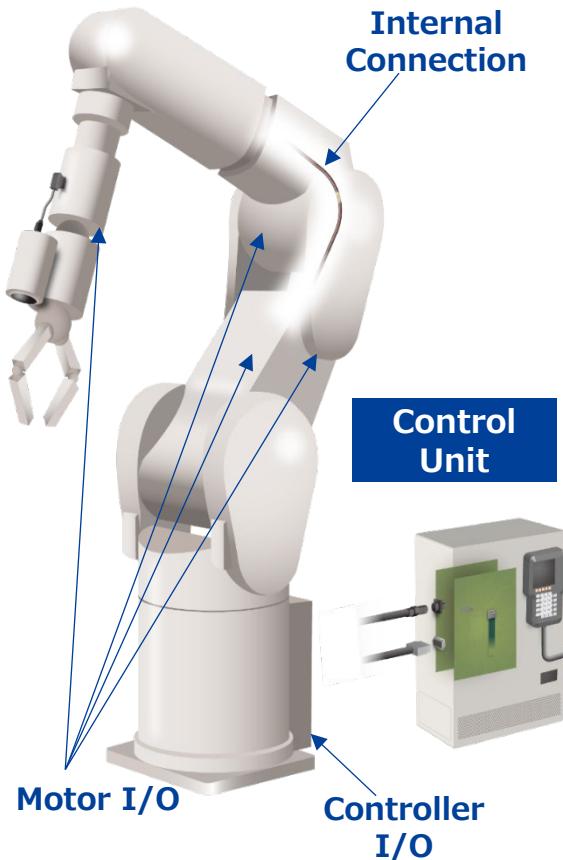


# Industrial Robots and Robot Control Units/

## 産業用ロボット、ロボットコントロールユニット

### Connectors for Industrial Robots



### Internal Connection (Non-Waterproof)



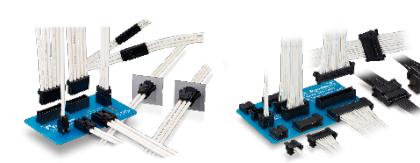
**DF60** **DF22**   
Rated Current: 65A\* Max. Rated Current: 30A Max.  
Rated Voltage: 1,000V AC/DC Rated Voltage: 1,000V AC/DC  
Pitch: 10.16mm Pitch: 7.92mm  
No. of Pos.: 1-6 No. of Pos.: 1-5  
AWG: 8-12 AWG: 10-16  
\*Derating Curve, Ambient Temperature of 25°C



**DF50** **DF62**   
Rated Current: 1A Max. Rated Current: 4A Max.  
Rated Voltage: 100V AC/DC Rated Voltage: 250V AC/DC  
Pitch: 1.0mm Pitch: 2.2mm  
No. of Pos.: 20, 30, 40, 50 No. of Pos.: 2-24  
AWG: 26-32 AWG: 22-30



**DF63** **DF51**   
Rated Current: 15A Max. Rated Current: 3A Max.  
Rated Voltage: 630V AC/DC Rated Voltage: 250V AC/DC  
Pitch: 2.2mm Pitch: 2.0mm  
No. of Pos.: 1-6 No. of Pos.: 2-30  
AWG: 16-22 AWG: 22-30



**DF62W** **DF63W**   
IP67 Waterproof (Mated) IP67 Waterproof (Mated)  
Rated Current: 14A Max. Rated Current: 14A Max.  
Rated Voltage: 630V AC/DC Rated Voltage: 630V AC/DC  
Pitch: 3.96mm Pitch: 3.96mm  
No. of Pos.: 2-9 No. of Pos.: 2-6  
AWG: 20-26 AWG: 16-22

### Motor I/O



**HR34B**  
IP67/IP68 Waterproof (Mated, 4pos. Receptacle)  
Rated Current: 5A Max.  
No. of Pos.: 4, 10  
AWG: 20-25



**LF**  
IPX7/IPX8 Waterproof (Mated)  
Rated Current: 10A Max.  
No. of Pos.: 3-20  
AWG: 16-26



**MT**  
Power/Signal Hybrid  
IP67 Waterproof (Mated)  
Rated Current: 4A, 7A (Power)  
1A (Signal)  
No. of Pos.: 6, 8, 14  
AWG: 18-26



**PQ50**  
Rated Current: 19A Max.  
Rated Voltage: 600V AC/DC  
No. of Pos.: 20  
AWG: 14-22



**PQ50WA**  
IP67 Waterproof (Mated)  
Rated Current: 19A Max.  
Rated Voltage: 600V AC/DC  
No. of Pos.: 25, 44, 46  
AWG: 14-28



**PQ50WT**  
IP67 Waterproof (Mated)  
Rated Current: 30A Max.  
Rated Voltage: 600V AC/DC  
No. of Pos.: 4, 8, 12, 54  
AWG: 10-28

### Peripheral Device Connection (Non-Waterproof)



**HR10**  
Rated Current: 2A Max.  
No. of Pos.: 4-20  
AWG: 26-30



**HR25A**  
Compact Push-pull Lock Connector  
Rated Current: 1A Max.  
No. of Pos.: 4-20  
AWG: 30



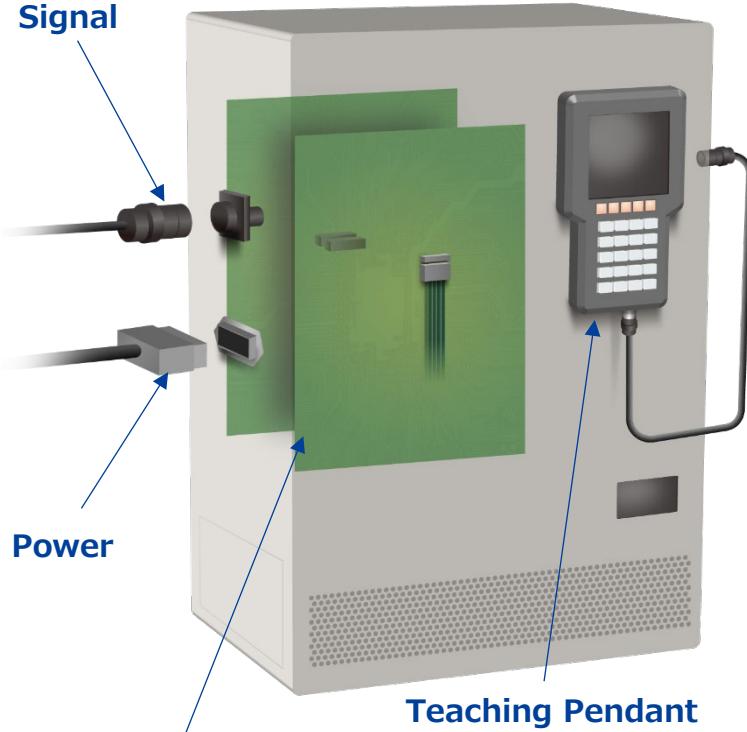
**IX**   
IEC Standard  
Small, Robust I/O Connector  
Cat.6A Ethernet  
IP65/IP67 Waterproof (Mated)



**HR30**  
IPX7/IPX8 Waterproof (Mated)  
Rated Current: 5A Max.  
(6, 10, 12pos.: 2A Max.)  
No. of Pos.: 3, 6, 10, 12  
AWG: 26-30 (3pos.: 20)



**LF**  
IPX7/IPX8 Waterproof (Mated)  
Rated Current: 10A Max.  
No. of Pos.: 3-20  
AWG: 16-26

Connectors for Robot Control Units**Control Unit****Control Signal****Control Board Internal Connection****Control Signal**

**LF**  
IPX7/IPX8 Waterproof (Mated)  
Rated Current: 10A Max.  
No. of Pos.: 3-20  
AWG: 16-26



**TM11R**  
RJ45  
Cat.3, Cat.5  
Rated Current: 0.5A



**DH**  
Pitch: 1mm  
Rated Current: 0.5A Max.  
No. of Pos.: 17, 27, 37, 51



**IX**  
IEC Standard  
Small, Robust I/O Connector  
Cat.6A Ethernet  
IP65/IP67 Waterproof (Mated)



**GT17H/HN**  
1Gbps High Speed Connector  
Meeting Automotive Specs.  
No. of Pos.: 4 (GT17H)  
4, 16 (GT17HN)

**Control Unit****Power**

**PQ50**  
Rated Current: 19A Max.  
Rated Voltage: 600V AC/DC  
No. of Pos.: 20  
AWG: 14-22



**PQ50S**  
Rated Current: 12.5A Max.  
Rated Voltage: 300V AC/DC  
No. of Pos.: 36, 48  
AWG: 16-28

**Teaching Pendant**

**HR22K**  
IPX7 Waterproof (Mated)  
Rated Current: 2A Max.  
Rated Voltage: 100V AC, 140V DC  
No. of Pos.: 20  
AWG: 24-28



**DH**  
Pitch: 1mm  
Rated Current: 0.5A Max.  
No. of Pos.: 17, 27, 37, 51



**LF**  
IPX7/IPX8 Waterproof (Mated)  
Rated Current: 10A Max.  
No. of Pos.: 3-20  
AWG: 16-26

**Control Board Internal Connection****Wire-to-Board**

**DF60**  
EnerBee  
Rated Current: 65A\* Max.  
Rated Voltage: 1,000V AC/DC  
Pitch: 10.16mm  
No. of Pos.: 1-6  
AWG: 8-12  
\*Derating Curve, Ambient Temperature of 25°C



**DF22**  
EnerBee  
Rated Current: 30A Max.  
Rated Voltage: 1,000V AC/DC  
Pitch: 7.92mm  
No. of Pos.: 1-5  
AWG: 10-16



**DF63**  
EnerBee  
Rated Current: 15A Max.  
Rated Voltage: 630V AC/DC  
Pitch: 3.96mm  
No. of Pos.: 1-6  
AWG: 16-22



**DF50/DF50A**  
SignalBee  
Rated Current: 2A Max.  
Rated Voltage: 100V AC/DC  
Pitch: 1.0mm  
No. of Pos.: 20, 30, 40, 50 (DF50)  
2-16 (DF50A)  
AWG: 26-32



**KW30**  
SignalBee  
Rated Current: 3A Max.  
Rated Voltage: 100V AC/DC  
Pitch: 1.0mm  
No. of Pos.: 2-15  
AWG: 28-32



**DF51/DF51K**  
SignalBee  
Rated Current: 3A Max.  
Rated Voltage: 250V AC/DC  
Pitch: 2.0mm  
No. of Pos.: 2-30  
AWG: 22-30



**HIF3M\*W**  
Rated Current: 1A Max.  
Rated Voltage: 200V AC  
Pitch: 2.54mm  
No. of Pos.: 10-64  
AWG: 28

**Ribbon Cable****Board-to-Board**

**FX18**  
FunctionMAX  
16Gbps High Speed  
Stacking Height: 2 Piece: 10-30mm/3 Piece: 25-45mm  
Pitch: 0.8mm  
No. of Pos.: 40-180\*  
(\*160, 180pos.: Coplanar Connection)



**FX23/FX23L**  
FunctionMAX  
16Gbps High Speed  
Floating Design  
Stacking Height: 8-30mm  
Pitch: 0.5mm  
No. of Pos.: Signal: 20-120  
Power: 4



**FX27**  
FunctionMAX  
PCIe Gen.1 Transmission  
Floating Design  
Stacking Height: 22mm Min.  
Pitch: 0.8mm  
No. of Pos.: 40-120



**FX30B**  
FunctionMAX  
Misalignment Absorption  
Stacking Height: 20-30mm  
Pitch: 3.81, 7.62mm  
No. of Pos.: 2, 3, 4, 5



**FH63S**  
FH OneAction  
FPC/FFC/Shield FFC Connector  
Height: 2.8mm  
Pitch: 0.5mm  
No. of Pos.: 10-50



**FH28K**  
FH OneAction  
125°C Heat Resistance  
FPC/FFC Connector  
Height: 2.55mm  
Pitch: 0.5mm  
No. of Pos.: 10-80