

## Options

### Q Series Programming Cables

Depending on the CPU type being used, either a serial or USB connection can be made to a CPU from a PC as follows:

| CPU  | Connections Available            | Cable to Use  |
|--|----------------------------------|---|
| Q00UJ, Q00U, Q01U, Q02U, Q03U, Q04U, Q06U, Q10U, Q13U, Q20U, Q26U, Q50U, Q100U | USB (Mini-B) and RS-232/Ethernet | GT09-C30USB-5P, Third party USB (Mini-B) or Ethernet Cat5e (RJ45 connector) |

### Q Series Slot Filler Module

In some cases it is not possible to fill all the slots on a rack. Where unused slots exist, there is a risk of system damage caused by extraneous material entering the backplane or system modules via the unused slot positions. The QG60 module is an empty single slot module case that fits in an unused slot to protect from possible contamination. Since the QG60 contains no electronic components, it does not affect the system configuration, power consumption or programming.

## Connectors, Cables and Terminal Blocks

For connector type I/O, all L Series and Q Series modules use the same FCN connector. Connectors, cables and terminal blocks are available for both.

| Category                          | Model Number   | Description  | Stocked Item | Applicable Products (*1)   |
|-----------------------------------|----------------|--|--------------|--|
| Connectors (For User-Made Cables) | A6CON1         | FCN, 40 Pin, Solder Type   | S            | L02CPU, L26CPU-BT, LX_, LY_, LD75_, LD62_, QX_, QY_, QH42P, QX41Y41P, Q66DA-G, Q68RD3-G, QD75_, QD72P3C3 |
|                                   | A6CON2         | FCN, 40 Pin, Crimp Type  | S            |  |
|                                   | A6CON3         | FCN, 40 Pin, IDC Type  | S            |  |
|                                   | A6CON4         | FCN, 40 Pin, Solder Type, Low-Profile  | -            |  |
| Direct-Wire Cables                | LCBL40P-2M     | 2.0m I/O Pigtail Cable, 40 Pin   | S            | L02CPU, L26CPU-BT, LX_, LY_, LD75_, LD62_, QX_, QY_, QH42P, QX41Y41P, Q66DA-G, Q68RD3-G, QD75_, QD72P3C3 |
|                                   | LCBL40P-5M     | 5.0m I/O Pigtail Cable, 40 Pin   | S            |  |
|                                   | LCBL40P-10M    | 10m I/O Pigtail Cable, 40 Pin  | S            |  |
| Terminal Block Dedicated Cables   | FA-SCBL05FMV-M | 0.5m Terminal Block Cable  | S            | FA-LTB40P  |
|                                   | FA-SCBL10FMV-M | 1.0m Terminal Block Cable  | S            |  |
|                                   | FA-SCBL15FMV-M | 1.5m Terminal Block Cable  | -            |  |
|                                   | FA-SCBL20FMV-M | 2.0m Terminal Block Cable  | S            |  |
|                                   | AC_TB          | Terminal Block Cable. _ = 0.5m, 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 8.0m, 10.0m length | S            | A6TBXY36, A6TBXY54   |
| Terminal Blocks                   | FA-LTB40P      | Terminal Block, 40 Point   | S            | L02CPU, L26CPU-BT  |
|                                   | A6TBXY36       | Terminal Block, 32 Point   | S            | LY41NT1P, LY42NT1P, LY41PT1P, LY42PT1P, QX41_, QX42_, QY41_, QY42_, QH_, QX41Y41P                        |
|                                   | A6TBXY54       | Terminal Block, 32 Point, 2-Wire   | -            |  |
| Extension Cable                   | LC06E          | 0.6m Extension Cable   | S            | L6EXB  |
|                                   | LC10E          | 1.0m Extension Cable   | S            | L6EXE  |
|                                   | LC30E          | 3.0m Extension Cable   | S            |  |

Note 1: Applicable products are FCN connector type CPUs and Modules.

## I/O Terminal Blocks and Covers

The 16 point Q Series I/O modules terminal blocks and covers are available separately. Use these to replace original parts or to prepare wiring harnesses.

| Model Number | Description  | Stocked Item |
|--------------|--|--------------|
| K08H07500150 | Q Series I/O terminal block assembly (screw terminals, cover door and label) | -            |
| K08H07500151 | Q Series I/O terminal block cover door and label only                        | -            |

## I/O Wiring Connectors

For the modules listed in the preceding I/O module sections, where connection type is given as “FCN” or “D-sub”, use the following connectors:

| Model Number | Certification | Number of Pins | Wiring Type | Connector Type | Stocked Item |
|--------------|---------------|----------------|-------------|----------------|--------------|
| A6CON1       | UL • cUL      | 40             | Solder      | FCN            | S            |
| A6CON2       | UL • cUL      | 40             | Crimp       | FCN            | S            |
| A6CON3       | UL • cUL      | 40             | IDC         | FCN            | S            |
| A6CON1E      | UL • cUL      | 37             | Solder      | D-Sub          | S            |
| A6CON2E      | UL • cUL      | 37             | Crimp       | D-Sub          | -            |
| A6CON3E      | UL • cUL      | 37             | IDC         | D-Sub          | -            |
| A6CON4       | -             | 40             | Solder      | FCN            | -            |

**Note:** A6CON4 has a bidirectional cable clamp which allows installation depth to be reduced.

## Remote Terminal Blocks

For QXx1, QXx2, QYx1 and QYx2 type I/O modules, the following remote terminal blocks can be used to make I/O connections.

## Connector / Terminal Block Converter Modules

| Model Number | Details  | Dimensions (W x H x D) | Applicable Models   | Stocked Item |
|--------------|--|------------------------|---|--------------|
| A6TBXY36     | 32 point terminal block (standard type)        | 120 x 78.5 x 52        | QX41, QX41-S1, QX42, QX42-S1, QY41P, QY42P, QH42P, QX41Y41P | S            |
| A6TBXY54     | 32 point terminal block (2-wire type)          | 155 x 78.5 x 52        | LY41NT1P, LY42NT1P, LY41PT1P, LY42PT1P                      | -            |
| A6TBX70      | 32 point terminal block (3-wire type)          | 190 x 78.5 x 52        | QX41, QX41-S1, QX42, QX42-S1, QH42P, QX41Y41P               | -            |
| A6TBX36-E    | For source type input modules (standard type)  | 120 x 78.5 x 52        | QX81  | S            |
| A6TBY36-E    | For source type output modules (standard type) | 120 x 78.5 x 52        | QY81P   | S            |
| A6TBX54-E    | For source type input modules (2-wire type)    | 155 x 78.5 x 52        | QX81  | -            |
| A6TBY54-E    | For source type output modules (2-wire type)   | 155 x 78.5 x 52        | QY81P   | -            |
| A6TBX70-E    | For source type input modules (3-wire type)    | 190 x 78.5 x 52        | QX81  | -            |

## Remote Terminal Block Cables

Use the following cables to make connections between Q Series I/O modules and the terminal blocks listed above.

| Model Number | Details   | Weight (kg) | Applicable Models                                     | Stocked Item |
|--------------|---|-------------|---|--------------|
| AC05TB       | 0.5 m (19.69 in), for sink modules                                    | 0.17        | A6TBXY36, A6TBXY54, A6TBX70                           | S            |
| AC10TB       | 1 m (39.37 in), for sink modules                                      | 0.23        |   |              |
| AC20TB       | 2 m (78.74 in), for sink modules                                      | 0.37        |   |              |
| AC30TB       | 3 m (118.11 in), for sink modules                                     | 0.51        |   |              |
| AC50TB       | 5 m (196.85 in), for sink modules                                     | 0.76        |   |              |
| AC80TB       | 8 m (314.96 in), for sink modules (common current not exceeding 0.5A) | 1.2         |   |              |
| AC100TB      | 10 m (393.7 in), for sink modules (common current not exceeding 0.5A) | 1.5         | A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, A6TBX70-E | S            |
| AC05TB-E     | 0.5 m (19.69 in), for source modules                                  | 0.17        |   |              |
| AC10TB-E     | 1 m (39.37 in), for source modules                                    | 0.23        |   |              |
| AC20TB-E     | 2 m (78.74 in), for source modules                                    | 0.37        |   |              |
| AC30TB-E     | 3 m (118.11 in), for source modules                                   | 0.51        |   |              |
| AC50TB-E     | 5 m (196.85 in), for source modules                                   | 0.76        |   |              |

### Notes:

- “-E” cables use DSUB connectors, non “-E” cables use FCN connectors.
- The number of connectable I/O points is 32 for all connector/terminal block converter modules. Two connector/terminal block converter modules and two cables for connector/terminal block converter modules are required for 64-point I/O modules.

## Memory Cards

Q Series memory cards are optional memory expansions. Use these cards to expand the CPU memory up to 32Mb. Memory cards may be used for storage of programs, data and system documentation. Note these are only used with sequence CPUs. Program memory is not increased by adding memory cards.

### Memory Cards Supported Data and Compatibility

| Drive No.                             | Memory Card (RAM)                                |  | File Name and Extension |
|---------------------------------------|--|--|-------------------------|
|                                       | SRAM Card  |  |                         |
|                                       | Q2MEM-1MBSN Q2MEM-2MBSN<br>Q3MEM-4MBS Q3MEM-8MBS |  |                         |
| Parameter                             | X  |  | PARAM.QPA               |
| Intelligent Function Module Parameter | X  |  | IPARAM.QPA              |
| Program                               | X (*1)   |  | ***.QPG                 |
| Device Comment                        | X (*2)   |  | ***.QCD                 |
| Device Initial Value                  | X  |  | ***.QDI                 |
| Device Data                           | -  |  | ***.QST                 |
| File Register                         | X  |  | ***.QDR                 |
| Local Device                          | X  |  | ***.QDL                 |
| Sampling Trace File                   | X  |  | ***.QTD                 |
| Failure History Data                  | X  |  | ***.QFD                 |
| PLC User Data                         | -  |  | ***.***                 |

For program storage only.  
Does not increase program memory.

**Notes:**

1. To execute the program stored in the standard ROM or memory card, adjusting the program memory boot settings is required in the PLC parameter dialog box. Note that the Universal model QCPU cannot boot data from the standard ROM to the program memory.
2. Read from a sequence program requires several scans.
3. Read only from a sequence program.

| Memory Card |             | CPU Module  |                       |              |                |                    |
|-------------|-------------|-------------|-----------------------|--------------|----------------|--------------------|
|             |             | Base Q CPUs | High Performance CPUs | Process CPUs | Redundant CPUs | Universal QnU CPUs |
| SRAM Card   | Q2MEM-1MBSN | -           | X                     | X            | X              | X                  |
|             | Q2MEM-2MBSN | -           | X                     | X            | X              | X                  |
|             | Q3MEM-4MBS  | -           | -                     | -            | -              | X                  |
|             | Q3MEM-8MBS  | -           | -                     | -            | -              | X                  |

**Note:** Only one memory card can be installed for each CPU module.

| Type           | Memory Type                            | Capacity | Write Count (Times) | Certification | Stocked Items |
|----------------|--|----------|---------------------|---------------|---------------|
| Q2MEM-1MBSN    | SRAM                                   | 1,011kb  | No restriction      | UL • cUL • CE | S             |
| Q2MEM-2MBSN    | SRAM                                   | 2,034kb  | No restriction      | UL • cUL • CE | S             |
| Q3MEM-4MBS     | SRAM                                   | 4,078kb  | No restriction      | UL • cUL • CE | -             |
| Q3MEM-4MBS-SET | Set of Q3MEM-4MBS and protective cover | N/A      | N/A                 | UL • cUL • CE | -             |
| Q3MEM-8MBS     | SRAM                                   | 8,172kb  | No restriction      | UL • cUL • CE | -             |
| Q3MEM-8MBS-SET | Set of Q3MEM-8MBS and protective cover | NA       | N/A                 | UL • cUL • CE | -             |

**Note:** Both the linear flash ROM and ATA flash ROM are rewritable non-volatile memories. For replacement memory card back-up batteries, please see the Accessories section. For certain sequence CPU functions to be enabled, specific types of memory card are required. Please refer to the relationship between memory cards and supported data type to select the memory card that best meets your needs.

### Q Series Memory Card Adapter

The Q2MEM-ADP adapter allows a Q Series memory card (Q2MEM-\_MB\_) to be installed in a standard PC Card (PCMCIA) slot for reading and writing to the card. Non-Stock product.

### Q Series Memory Card Replacement Battery

Use these batteries to maintain the contents of SRAM memory cards after power down.

| Model Number    | Q2MEM-BAT  | Q3MEM-BAT  |
|-----------------|--|--|
| Stocked Item    | S  | -  |
| Classification  | Graphite fluoride lithium primary battery                        | Manganese dioxide lithium primary battery                      |
| Initial Voltage | 3.0V   | 3.0V   |
| Nominal Current | 48mAh  | 550mAh   |
| Storage Life    | 5 years (room temperature)                                       |  |
| Lithium Content | 0.014g   | 0.150g   |
| Application     | Power failure backup for SRAM card (for Q2MEM-1MBSN/Q2MEM-2MBSN) | Power failure backup for SRAM card (for Q3MEM-4MBS/Q3MEM-8MBS) |

## Q Series CPU Memory Replacement Battery

All Q Series CPUs employ RAM based memory. To insure this is preserved after power down, use the Q6BAT or Q7BAT. Note these are not compatible with the A6BAT. Any RAM based memory cards installed in the CPU use the Q2MEM-BAT for back-up and are independent of the Q6BAT. One Q6BAT is shipped with each CPU.

|                         |                          |                          |                             |  |
|-------------------------|--------------------------|--------------------------|-----------------------------|--|
| <b>Model Number</b>     | <b>Q6BAT</b>             |                          |                             |  |
| <b>Stocked Item</b>     | S                        |                          |                             |  |
| <b>Battery Lifetime</b> | <b>CPU Type</b>          | <b>Min. Back-Up Time</b> | <b>Typical Back-Up Time</b> | <b>Back-Up Time After Battery Error ON</b> |
|                         | Basic Q CPUs             | 5,433 hours              | 13,120 hours                | 120 hours                                  |
|                         | Q02H, Q06H               | 2,341 hours              | 6,435 hours                 | 120 hours                                  |
|                         | Q12H, Q25H, Q12PH, Q25PH | 1,260 hours              | 4,228 hours                 | 48 hours                                   |

|                         |                          |                          |                             |  |
|-------------------------|--------------------------|--------------------------|-----------------------------|--|
| <b>Model Number</b>     | <b>Q7BAT/Q7BAT-SET</b>   |                          |                             |  |
| <b>Stocked Item</b>     | S                        |                          |                             |  |
| <b>Battery Lifetime</b> | <b>CPU Type</b>          | <b>Min. Back-Up Time</b> | <b>Typical Back-Up Time</b> | <b>Back-Up Time After Battery Error ON</b> |
|                         | Q02                      | 13,000 hours             | 31,000 hours                | 240 hours                                  |
|                         | Q02H, Q06H               | 5,000 hours              | 14,000 hours                | 240 hours                                  |
|                         | Q12H, Q25H, Q12PH, Q25PH | 2,900 hours              | 9,700 hours                 | 96 hours                                   |

## Q Series Connector Disconnection Prevention Holder

The Q6HLD-R2 is a clamp that fixes a cable securely to the RS-232 port of a Q Series CPU to prevent accidental disconnection. It is adjustable to accommodate different cable designs and does not block access to the USB port, where available

|                     |                 |
|---------------------|-----------------|
| <b>Model Number</b> | <b>Q6HLD-R2</b> |
| <b>Stocked Item</b> | -               |

## Q Series Spare Parts

| Model Number         | Description   | Stocked item |
|----------------------|---|--------------|
| <b>BKO-C8834H12</b>  | Spare CC-Link terminating resistors 2 x 110Ω, 2 x 130Ω, fitted with insulated lugs  | -            |
| <b>BKO-C10798H02</b> | QJ61BT11N CC-Link network master module network connection terminal block   | -            |
| <b>K08H07500150</b>  | QXn0/QYn0 I/O block complete terminal block assembly (screw terminal block, hinged cover and label) (Fits QX10, QY10, etc.) | -            |
| <b>K08H07500151</b>  | Hinged cover and label only from K08H07500150   | -            |

## Q Series Spring Clamp Terminal Block

The Q6TE-18S fits most Q Series 16 point (or less) I/O modules and allows terminations to be made via a spring clamp. This offers the benefit of making wiring connections without using wiring lugs.

|                     |                  |
|---------------------|------------------|
| <b>Model Number</b> | <b>Q6TE-18SN</b> |
| <b>Stocked Item</b> | S                |

## Q Series IDC Terminal Block Adapter

The Q6TA32 allows some I/O modules to offer an IDC (insulation displacement connector) type wiring connection. This makes wiring less expensive and faster, as wires do not need to be stripped or have a lug fitted. Wire is simply pushed into the receptacles on the adapter, and held firmly by the IDC connection.

|                     |               |
|---------------------|---------------|
| <b>Model Number</b> | <b>Q6TA32</b> |
| <b>Stocked Item</b> | -             |

## Q Series IDC Insertion Tool

Use the Q6TA32-TOL to fit wires into the IDC receptacles of the Q6TA32.

|                     |                   |
|---------------------|-------------------|
| <b>Model Number</b> | <b>Q6TA32-TOL</b> |
| <b>Stocked Item</b> | -                 |