DC Hookups

DC01: Current Sinking (NPN)
- Key: 1 = Brown, 3 = Blue, 4 = Black
- 3-Pin Pico

DC02: Current Sourcing (PNP)
- Key: 1 = Brown, 3 = Blue, 4 = Black
- 3-Pin Pico

DC03: Emitter
- Key: 1 = Brown, 2 = White, 3 = Blue, 4 = Black
- 3-Pin Pico, 4-Pin Pico, 4-Pin Euro, 4-Pin Mini
- Not Used

DC04: Complementary Current Sinking (NPN)
- Key: 1 = Brown, 2 = White, 3 = Blue, 4 = Black
- 4-Pin Pico, 4-Pin Euro, 4-Pin Mini
DC Hookups

**DC05**

**Complementary Current Sourcing (PNP)**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Key**

```
1 = Brown
2 = White
3 = Blue
4 = Black
```

**4-Pin Pico**

```
4 3 2 1
```

**4-Pin Euro**

```
4 3 2 1
```

**4-Pin Mini**

```
4 3 2 1
```

**DC06**

**Bipolar (NPN + PNP)**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Key**

```
1 = Brown
2 = White
3 = Blue
4 = Black
```

**4-Pin Pico**

```
4 3 2 1
```

**4-Pin Euro**

```
4 3 2 1
```

**4-Pin Mini**

```
4 3 2 1
```

**DC07**

**Complementary Current Sinking (NPN)**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Standard Hookup**

**Current Sinking (NPN) Plus Current Sinking Alarm**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Key**

```
1 = Brown
2 = White
3 = Blue
4 = Black
```

**4-Pin Pico**

```
4 3 2 1
```

**4-Pin Euro**

```
4 3 2 1
```

**DC08**

**Complementary Current Sourcing (PNP)**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Standard Hookup**

**Current Sourcing (PNP) Plus Current Sourcing Alarm**

```
1   3
10-30V dc

2   4

Load

4 = Black
3 = Blue
2 = White
1 = Brown
```

**Key**

```
1 = Brown
2 = White
3 = Blue
4 = Black
```

**4-Pin Pico**

```
4 3 2 1
```

**4-Pin Euro**

```
4 3 2 1
```
**Hookup Diagrams**

**DC Hookups**

**DC09**

**Current Sinking (NPN)**

| Key | 1 = Brown | 2 = White | 3 = Blue | 4 = Black |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>+</td>
<td>-</td>
<td>Remote Programming (N.O.)</td>
</tr>
</tbody>
</table>

**4-Pin Pico**

**4-Pin Euro**

**DC10**

**Current Sourcing (PNP)**

| Key | 1 = Brown | 2 = White | 3 = Blue | 4 = Black |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>+</td>
<td>-</td>
<td>Remote Programming (N.O.)</td>
</tr>
</tbody>
</table>

**4-Pin Pico**

**4-Pin Euro**

**DC11**

**Bipolar (NPN + PNP)**

| Key | 1 = Brown | 2 = White | 3 = Blue | 4 = Black | 5 = Gray | 6 = Pink† |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>Load</td>
<td>+</td>
<td>-</td>
<td>Remote Teach</td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: For some QS30 models, gray wire is used for LO/DO Select. See data sheet.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Pin Pico</td>
<td>4-Pin Euro</td>
<td>6-Pin Pico</td>
<td>5-Pin Euro</td>
<td>4-Pin Euro</td>
<td>4-Pin Euro</td>
</tr>
</tbody>
</table>

**DC12**

**Selectable Output – NPN**

| Key | 1 = Brown | 2 = White | 3 = Blue | 4 = Black |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>+</td>
<td>-</td>
<td>Selectable Output – NPN</td>
</tr>
</tbody>
</table>

**Selectable Output – PNP**

| Key | 1 = Brown | 2 = White | 3 = Blue | 4 = Black |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>+</td>
<td>-</td>
<td>Selectable Output – PNP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Pin Euro</td>
<td>4-Pin Euro</td>
<td>4-Pin Euro</td>
<td>4-Pin Euro</td>
</tr>
</tbody>
</table>

---

*Not Used*
DC Hookups

**DC13**

**Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White †</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>

† Not Used

**10-30V dc**

- No connection

**4-Pin Euro**

1. Brown
2. White †
3. Blue
4. Black

† Not Used

**DC14**

**Current Sourcing (PNP)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White †</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>

† Not Used

**10-30V dc**

- No connection

**4-Pin Euro**

1. Brown
2. White †
3. Blue
4. Black

† Not Used

**DC15**

**Emitter Frequency A**

1. Brown
2. White
3. Blue
4. Black †
5. Gray

† Not Used

**Emitter Frequency B**

1. Brown
2. White
3. Blue
4. Black †
5. Gray

† Not Used

**5-Pin Euro**

**DC16**

**Receiver Frequency A**

1. Brown
2. White
3. Blue
4. Black
5. Gray

**Receiver Frequency B**

1. Brown
2. White
3. Blue
4. Black
5. Gray

**5-Pin Euro**

More information online at bannerengineering.com
DC Hookups

**DC17**

**Complementary Current Sinking (NPN)**

1. 1 = Brown
2. 2 = White
3. 3 = Blue
4. 4 = Black
5. 5 = Gray

**Load**

10-30V dc

150 mA Maximum each

(Laser Control)

(+ Off - On)

**Key**

**5-Pin Euro**

1. 1
2. 2
3. 3
4. 4
5. 5

**DC18**

**Complementary Current Sourcing (PNP)**

1. 1 = Brown
2. 2 = White
3. 3 = Blue
4. 4 = Black
5. 5 = Gray

**Load**

10-30V dc

150 mA Maximum each

(Laser Control)

(+ Off - On)

**Key**

**5-Pin Euro**

1. 1
2. 2
3. 3
4. 4
5. 5

**DC19**

**Bipolar (NPN + PNP)**

1. 1 = Brown
2. 2 = White
3. 3 = Blue
4. 4 = Black
5. 5 = Gray

**Load**

10-30V dc

Beam Inhibit

Connect to +V

**Key**

**5-Pin Euro**

1. 1
2. 2
3. 3
4. 4
5. 5

**5-Pin Mini**

1. 1
2. 2
3. 3
4. 4

**DC20**

**Current Sinking (NPN)**

1. 1 = Brown
2. 2 = White
3. 3 = Blue
4. 4 = Black

**Configuration**

**Key**

**4-Pin Euro**

1. 1
2. 2
3. 3
4. 4

**Current Sourcing (PNP)**

1. 1 = Brown
2. 2 = White
3. 3 = Blue
4. 4 = Black

**Configuration**

**Key**

**4-Pin Mini**

1. 1
2. 2
3. 3
4. 4
DC Hookups

DC21

**Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
<tr>
<td>5 = Gray</td>
</tr>
<tr>
<td>6 = Pink</td>
</tr>
</tbody>
</table>

**Key**

- Load
- Teach
- Gate

**6-Pin Pico**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink

DC22

**Current Sourcing (PNP)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
<tr>
<td>5 = Gray</td>
</tr>
<tr>
<td>6 = Pink</td>
</tr>
</tbody>
</table>

**Key**

- Load
- Teach
- Gate

**6-Pin Pico**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink

DC23

**Current Sinking (NPN) + Analog Current**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
<tr>
<td>5 = Gray</td>
</tr>
<tr>
<td>6 = Pink</td>
</tr>
</tbody>
</table>

**Key**

- Load
- Teach
- Gate

**4-20 mA**

**6-Pin Pico**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink

DC24

**Current Sinking (NPN) + Analog Voltage**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
<tr>
<td>5 = Gray</td>
</tr>
<tr>
<td>6 = Pink</td>
</tr>
</tbody>
</table>

**Key**

- Load
- Teach
- Gate

**0-10V dc**

**6-Pin Pico**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink
DC Hookups

**DC25**

**Current Sourcing (PNP) + Analog Current**

Key:

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink

6-Pin Pico

**DC26**

**Current Sourcing (PNP) + Analog Voltage**

Key:

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
6 = Pink

6-Pin Pico

**DC27**

**Current Sinking (NPN) Cable Hookup**

Key:

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

**DC28**

**Current Sourcing (PNP) Cable Hookup**

Key:

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
### DC Hookups

#### DC29

**SM30 DC Receivers NPN**  
**Light Operate**  

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

Key:
- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

**Load**

10-30V dc

4-Pin Mini

#### DC30

**SM30 DC Receivers PNP**  
**Light Operate**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

Key:
- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

**Load**

10-30V dc

4-Pin Mini
AC Hookups

**AC01**

2-wire AC

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
</tbody>
</table>

**AC02**

2-wire AC with Quick-Disconnect Cable

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Green†</td>
</tr>
<tr>
<td>2 = Red/Black</td>
</tr>
<tr>
<td>3 = Red/White</td>
</tr>
</tbody>
</table>

† Not Used

**AC03**

Emitters

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
</tbody>
</table>

**AC04**

Emitters with Quick-Disconnect Cable

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Green</td>
</tr>
<tr>
<td>2 = Red/Black</td>
</tr>
<tr>
<td>3 = Red/White</td>
</tr>
</tbody>
</table>

NOTE: Wire a load in series before powering up sensor.
AC Hookups

AC05

3-wire AC

<table>
<thead>
<tr>
<th>Key</th>
<th>1 = Brown</th>
<th>3 = Blue</th>
<th>4 = Black</th>
</tr>
</thead>
</table>

3-wire AC with Quick-Disconnect Cable

<table>
<thead>
<tr>
<th>Key</th>
<th>1 = Red/Black</th>
<th>2 = Red/White</th>
<th>3 = Red</th>
<th>4 = Green†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>† Not Used</td>
</tr>
</tbody>
</table>

3-Pin Mini

4-Pin Micro

AC06

AC07

Emitters with Quick-Disconnect Cable

<table>
<thead>
<tr>
<th>Key</th>
<th>1 = Red/Black</th>
<th>2 = Red/White</th>
<th>3 = Red†</th>
<th>4 = Green†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>† Not Used</td>
</tr>
</tbody>
</table>

4-Pin Micro

AC08

SPDT Electromechanical Relay Output

<table>
<thead>
<tr>
<th>Key</th>
<th>1 = Brown</th>
<th>2 = White</th>
<th>3 = Blue</th>
<th>4 = Black</th>
<th>5 = Yellow</th>
</tr>
</thead>
</table>

5-Pin Mini

† Not Used
**AC Hookups**

**AC09**

**OPBA2 or OPBB2 3-wire SPST Solid-State Powerblock**

![Diagram of OPBA2 or OPBB2 3-wire SPST Solid-State Powerblock]

**Key**

1 = Brown  
2 = White  
3 = Blue  
4 = Black  
5 = Yellow  

V ac (see Specifications)

**Alarm**

**Load**

---

**AC10**

**SM30 2-wire AC Receivers with Attached Cable**

![Diagram of SM30 2-wire AC Receivers]

**Key**

1 = Brown  
3 = Blue  
4 = Green  

**24-240V ac**

*Connect green wire to earth ground whenever a stainless steel model is powered by ac voltage.*

**NOTE:** Wire a load in series before powering up sensor.

---

**AC11**

**SM30 2-wire AC Receivers**

![Diagram of SM30 2-wire AC Receivers]

**Key**

1 = Green  
2 = Red/Black  
3 = Red/White  

**24-240V ac**

*Connect green wire to earth ground whenever a stainless steel model is powered by ac voltage.*

**NOTE:** Wire a load in series before powering up sensor.

---

**3-Pin Mini**

![Diagram of 3-Pin Mini]

1  
2  
3

---
# Universal AC/DC Hookups

## UN01

### SPDT Electromechanical Relay Output

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>N.C.</td>
<td>Blue</td>
<td>Black</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

**Key:**

- **Supply Voltage** (see Specifications)

**NOTE:** Connection of dc power is without regard to polarity.

### 5-Pin Mini

![5-Pin Mini Diagram](image)

## UN02

### Emitters

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>Blue</td>
<td>Black</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

**Key:**

- **Supply Voltage** (see Specifications)

*NOTE:* Connection of dc power is without regard to polarity.

### 3-Pin Mini

![3-Pin Mini Diagram](image)

### 4-Pin Mini

![4-Pin Mini Diagram](image)

## UN03

### SPST Solid-State Relay Output

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

**Key:**

- 24-250V ac or 12-250V dc

*NOTE:* Connection of dc power is without regard to polarity.

### 4-Pin Mini

![4-Pin Mini Diagram](image)

## UN04

### SPST Electromechanical Relay Output

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red/Black</td>
<td>Red/White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

**Key:**

- 24-250V ac or 12-250V dc

*NOTE:* Connection of dc power is without regard to polarity.

### 4-Pin Micro

![4-Pin Micro Diagram](image)

---

More information online at [bannerengineering.com](http://bannerengineering.com)
## Universal AC/DC Hookups

### UN05

#### Normally Open/Pump-In

<table>
<thead>
<tr>
<th>1</th>
<th>See Specifications**</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>N.C./Pump Out</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>N.O./Pump In</td>
</tr>
</tbody>
</table>

** It is recommended that the shield wire be connected to earth ground.  
** DC hookup is without regard to polarity.

---

### UN06

#### SM30 Emitters with Attached Cable

<table>
<thead>
<tr>
<th>1</th>
<th>10-30V dc or 24-240V ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4*</td>
<td></td>
</tr>
</tbody>
</table>

* Connect green wire to earth ground whenever a stainless steel model is powered by ac voltage.

---

### Key

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black
- 5 = Yellow

---

### 5-Pin Micro

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

4A max. Load

---

### 5-Pin Mini

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

8A max. Load
### Special Hookups

#### SP01: QS186LE Laser Emitter

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>Blue</td>
</tr>
<tr>
<td>4</td>
<td>Black†</td>
</tr>
</tbody>
</table>

† Not Used

**Diagram:**
- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

#### SP02: NAMUR Hookup

**Diagram:**
- 1 = Brown
- 3 = Blue

#### SP03: QC50/QCX50 Current Sinking (NPN)

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Brown</td>
</tr>
<tr>
<td>3</td>
<td>Green</td>
</tr>
<tr>
<td>4</td>
<td>Yellow</td>
</tr>
<tr>
<td>5</td>
<td>Gray</td>
</tr>
<tr>
<td>6</td>
<td>Pink</td>
</tr>
<tr>
<td>7</td>
<td>Blue</td>
</tr>
<tr>
<td>8</td>
<td>Red</td>
</tr>
</tbody>
</table>

**Diagram:**
- 1 = White
- 2 = Brown
- 3 = Green
- 4 = Yellow
- 5 = Gray
- 6 = Pink
- 7 = Blue
- 8 = Red

#### SP04: QC50/QCX50 Current Sourcing (PNP)

- 1 = White
- 2 = Brown
- 3 = Green
- 4 = Yellow
- 5 = Gray
- 6 = Pink
- 7 = Blue
- 8 = Red

**Diagram:**
- 1 = White
- 2 = Brown
- 3 = Green
- 4 = Yellow
- 5 = Gray
- 6 = Pink
- 7 = Blue
- 8 = Red
Special Hookups

**QL50 Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>

**QL50 Current Sourcing (PNP)**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>

**QL55 Current Sinking (NPN) with Analog Output**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>

**QL55 Current Sourcing (PNP) with Analog Output**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
</tbody>
</table>
Special Hookups

**SP09**

**SL10, SL30 and SLO30**

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Brown</td>
</tr>
<tr>
<td>2 = White</td>
</tr>
<tr>
<td>3 = Blue</td>
</tr>
<tr>
<td>4 = Black</td>
</tr>
<tr>
<td>5 = Gray</td>
</tr>
</tbody>
</table>

* For Dark Operate, connect gray wire to + (brown). For Light Operate, connect gray wire to – (blue) or leave circuit open.

**SP10**

**SLC1 Outputs ON for gap between labels**

* Toggle to opposite polarity for > 100 ms to reset microprocessor.

**SLC1 Outputs ON for labels**

* Toggle to opposite polarity for > 100 ms to reset microprocessor.

**5-Pin Euro**

**SP11**

**EZ-LIGHT™ Indicators**

<table>
<thead>
<tr>
<th>M18</th>
<th>T18</th>
<th>T30</th>
<th>K50L</th>
<th>Light/Flash</th>
<th>PNP Hookup</th>
<th>NPN Hookup</th>
<th>Function</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7-Function</td>
<td>General</td>
<td>7-Function</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7-Function</td>
<td>General</td>
<td>7-Function</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7-Function</td>
<td>General</td>
<td>7-Function</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7-Function</td>
<td>General</td>
<td>7-Function</td>
<td>General</td>
<td></td>
</tr>
</tbody>
</table>

**EZ-LIGHT PNP Hookup**

**EZ-LIGHT NPN Hookup**

*General Propose models do not have flash function.*
Hookup Diagrams
Measurement and Inspection Hookups

Measurement and Inspection Hookups

MIC1
LT3 Analog and Current Sinking (NPN)
Discrete Outputs

Key
1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield

MIC2
LT3 Analog and Current Sourcing (PNP)
Discrete Outputs

Key
1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield

MIC3
LT3 with Two Discrete Outputs
Current Sinking (NPN)

Key
1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield

MIC4
LT3 with Two Discrete Outputs
Current Sourcing (PNP)

Key
1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield
Measurement and Inspection Hookups

**MI05**

**LG5/LG10 Analog and Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>8-Pin Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**Key**

1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield

* See data sheet for shield wire connection.

**MI06**

**LG5/LG10 Analog and Current Sourcing (PNP)**

<table>
<thead>
<tr>
<th>8-Pin Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**Key**

1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Red
7 = Blue
8 = Shield

* See data sheet for shield wire connection.

**MI07**

**Q50 with Discrete Outputs**

Complementary Current Sinking (NPN)

<table>
<thead>
<tr>
<th>5-Pin Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

**MI08**

**Q50 with Discrete Outputs**

Complementary Current Sourcing (PNP)

<table>
<thead>
<tr>
<th>5-Pin Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

More information online at [bannerengineering.com](http://bannerengineering.com)
Measurement and Inspection Hookups

MI09

Q50 with Analog Output

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>15-30V dc</td>
<td>4-20 mA or 0-10V</td>
<td>5-30V dc</td>
<td>Teach</td>
</tr>
<tr>
<td>-</td>
<td>0-2V dc</td>
<td>64 ms</td>
<td>+ 5-30V dc</td>
<td>Bare</td>
</tr>
</tbody>
</table>

Key

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

5-Pin Euro

1 2 4 3 5

MI10

QT50U with Discrete Outputs

Current Sinking (NPN)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>10-30V dc</td>
<td>4-20 mA</td>
<td>0-2V dc</td>
<td>Remote</td>
</tr>
<tr>
<td>-</td>
<td>+1</td>
<td>64 ms</td>
<td>Teach</td>
<td></td>
</tr>
</tbody>
</table>

Key

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

5-Pin Euro

1 2 4 3 5

QT50U with Discrete Outputs

Current Sourcing (PNP)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>10-30V dc</td>
<td>4-20 mA</td>
<td>0-2V dc</td>
<td>Remote</td>
</tr>
<tr>
<td>-</td>
<td>+1</td>
<td>64 ms</td>
<td>Teach</td>
<td></td>
</tr>
</tbody>
</table>

Key

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

5-Pin Mini

1 2 4 3 5

MI11

QT50U with Analog Output

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>10-30V dc</td>
<td>4-20 mA or 0-10V</td>
<td>Remote</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>0-2V dc</td>
<td>Teach</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key

5-Pin Euro

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

5-Pin Mini

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Yellow

5-Pin Euro

1 2 4 3 5

MI12

Bipolar (NPN + PNP) with Shield

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>10-30V dc</td>
<td>4-20 mA or 0-10V</td>
<td>Remote</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>0-2V dc</td>
<td>Teach</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

5-Pin Euro

1 2 4 3 5

5-Pin Mini
Measurement and Inspection Hookups

**S18U with Analog Output**

- **Key**
  - 1 = Brown
  - 2 = White
  - 3 = Blue
  - 4 = Black
  - 5 = Gray

- **Shield**
  - It is recommended that the shield wire be connected to either earth ground or DC common.

**T30U with Discrete Outputs**

**Current Sinking (NPN)**

- **Key**
  - 1 = Brown
  - 2 = White
  - 3 = Blue
  - 4 = Black
  - 5 = Gray

- **Shield**
  - It is recommended that the shield wire be connected to either earth ground or DC common.

**Current Sourcing (PNP)**

- **Key**
  - 1 = Brown
  - 2 = White
  - 3 = Blue
  - 4 = Black
  - 5 = Gray

- **Shield**
  - It is recommended that the shield wire be connected to either earth ground or DC common.

**T30U with Analog & Discrete Outputs**

- **Current Sinking (NPN)**
  - **Key**
    - 1 = Brown
    - 2 = White
    - 3 = Blue
    - 4 = Black
    - 5 = Gray

  - **Shield**
    - It is recommended that the shield wire be connected to either earth ground or DC common.
# Measurement and Inspection Hookups

## MI17

**T30U with Analog & Discrete Outputs**

- **Current Sourcing (PNP)**
  - 3: 12-24V dc
  - 1: 4-20 mA or 0-10V
  - 2: Discrete Load
  - 4: 100 mA Maximum
  - 5: Remote Teach

**Key**

1. Brown
2. White
3. Blue
4. Black
5. Gray

*It is recommended that the shield wire be connected to either earth ground or DC common.*

## MI18

**Q45U & Q45UR with Discrete Outputs**

**Key**

1. Brown
2. White
3. Blue
4. Black
5. Gray

*It is recommended that the shield wire be connected to either earth ground or DC common.*

## MI19

**Q45U & Q45UR with Analog Outputs**

**Key**

1. Brown
2. White
3. Blue
4. Black
5. Gray

*It is recommended that the shield wire be connected to either earth ground or DC common.*

## MI20

**T18U Current Sinking (NPN)**

**NORMAL Resolution**

**Key**

1. Brown
2. White
3. Blue
4. Black
5. Yellow

**T18U Current Sinking (NPN)**

**HIGH Resolution**

**Key**

1. Brown
2. White
3. Blue
4. Black

More information online at [bannerengineering.com](http://bannerengineering.com)
Measurement and Inspection Hookups

**MI21**

**T18U Current Sourcing (PNP)**

**NORMAL Resolution**

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

**HIGH Resolution**

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

**12-30V dc**

**Load**

**MI22**

**T18UE Emitter**

- 1 = Brown
- 2 = White†
- 3 = Blue
- 4 = Black†

† Not Used

**12-30V dc**

**Load**

**4-Pin Euro**

1 2 3 4

**MI23**

**LX Receiver**

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black
- 5 = Gray

**10-30V dc**

**Shield**

**Select**

- Normal 5-30V dc
- Reduced 0-2V dc

**MI24**

**LX Emitter**

- 1 = Brown
- 2 = White†
- 3 = Blue†
- 4 = Black†

† Not Used

**10-30V dc**

**Shield**

**Select**

- Normal 5-30V dc
- Reduced 0-2V dc

**5-Pin Euro**

1 2 3 4 5

More information online at bannerengineering.com
## Measurement and Inspection Hookups

### MI25 - PVD with Switch-Selectable Output

**Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>12-30V dc</td>
<td>Load</td>
<td>Gray</td>
</tr>
</tbody>
</table>

- **Job Light Enable**
- **Datacom**

*See configuration information in data sheet for job light enable input requirements.

| 1 = Brown | 2 = White | 3 = Blue | 4 = Black | 5 = Gray |

### MI26 - PVA Current Sinking (NPN)

**Key**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>12-30V dc</td>
<td>Load</td>
<td>Black</td>
</tr>
</tbody>
</table>

*See data sheet for Programming information or job light enable requirements.

### MI27 - PVA Current Sourcing (PNP)

**Key**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

*See data sheet for Programming information or job light enable requirements.

### MI28 - PVA Emitter

**Key**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
<td>Black</td>
</tr>
</tbody>
</table>

*Not Used

---

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black

---

More information online at [bannerengineering.com](http://bannerengineering.com)
Measurement and Inspection Hookups

**MI29**

**VTB Current Sinking (NPN) Hookup for Solid Job Light**

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><img src="12-30V_dc" alt="" /></td>
<td>Load</td>
</tr>
<tr>
<td>Job Light Enable Input: 0V dc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VTB Current Sinking (NPN) Hookup for Flashing Job Light**

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><img src="12-30V_dc" alt="" /></td>
</tr>
<tr>
<td>Load</td>
<td></td>
</tr>
<tr>
<td>Job Light Enable Input: 0V dc</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black

**MI30**

**VTB Current Sourcing (PNP) Hookup for Solid Job Light**

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Load</td>
</tr>
<tr>
<td><img src="12-30V_dc" alt="" /></td>
<td></td>
</tr>
<tr>
<td>Job Light Enable Input: +10-30V dc</td>
<td></td>
</tr>
</tbody>
</table>

**VTB Current Sourcing (PNP) Hookup for Flashing Job Light**

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Load</td>
</tr>
<tr>
<td><img src="12-30V_dc" alt="" /></td>
<td></td>
</tr>
<tr>
<td>Job Light Enable Input: +10-30V dc</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black

**MI31**

**LT7 Current Sourcing (PNP) and Analog Outputs**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Load</td>
<td></td>
</tr>
<tr>
<td>4-20 mA Load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30V dc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Connection for Retro models</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alarm Output 1 (Di)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alarm Output 2 (Di)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS422: Tx+ SSI: Data+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS422: Rx+ SSI: Clock+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS422: Rx- SSI: Clock-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = Yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 = Gray</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 = Pink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 = Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 = Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 = Purple</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 = Gray/Pink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 = Red/Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 = Blue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key**

1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Pink
7 = Red
8 = Black
9 = Purple
10 = Gray/Pink
11 = Red/Blue
12 = Blue

**MI32**

**QS18U Current Sinking (NPN)**

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Load</td>
</tr>
<tr>
<td><img src="12-30V_dc" alt="" /></td>
<td></td>
</tr>
<tr>
<td>Remote Programming (N.O.)</td>
<td></td>
</tr>
<tr>
<td>Shield*</td>
<td></td>
</tr>
</tbody>
</table>

* It is recommended that the shield wire be connected to either earth ground or DC common.

**Key**

1 = Brown
2 = White
3 = Blue
4 = Black

**12-Pin M16**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
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<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>12</td>
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</tbody>
</table>

**4-Pin Pico**

<table>
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</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
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</tbody>
</table>

**4-Pin Euro**

<table>
<thead>
<tr>
<th>1</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

More information online at [bannerengineering.com](http://bannerengineering.com)
Measurement and Inspection Hookups

### QS18U Current Sourcing (PNP)

**MI33**

**Key**

1 = Brown  
2 = White  
3 = Blue  
4 = Black  

*It is recommended that the shield wire be connected to either earth ground or DC common.*

#### Hookup Diagram

4-Pin Pico  
4-Pin Euro

---

### QS18U Current Sourcing (PNP)

**MI34**

**Key**

1 = Brown  
2 = White  
3 = Blue  
4 = Black  

**Indicator Enable**

12-30V dc

#### Hookup Diagram

4-Pin Euro

---

### K50 Current Sinking (NPN)

**MI35**

**Key**

1 = Brown  
2 = White  
3 = Blue  
4 = Black  

**Indicator Enable**

-12-30V dc

*It is recommended that the shield wire be connected to either earth ground or DC common.*

#### Hookup Diagram

4-Pin Euro

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### M18T with Analog Output

**MI36**

**Key**

1 = Brown  
2 = White  
3 = Blue  
4 = Black  
5 = Gray  

**Remote Teach**

12-30V dc

*It is recommended that the shield wire be connected to either earth ground or DC common.*

#### Hookup Diagram

5-Pin Euro

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