

# HYBRID SERIES

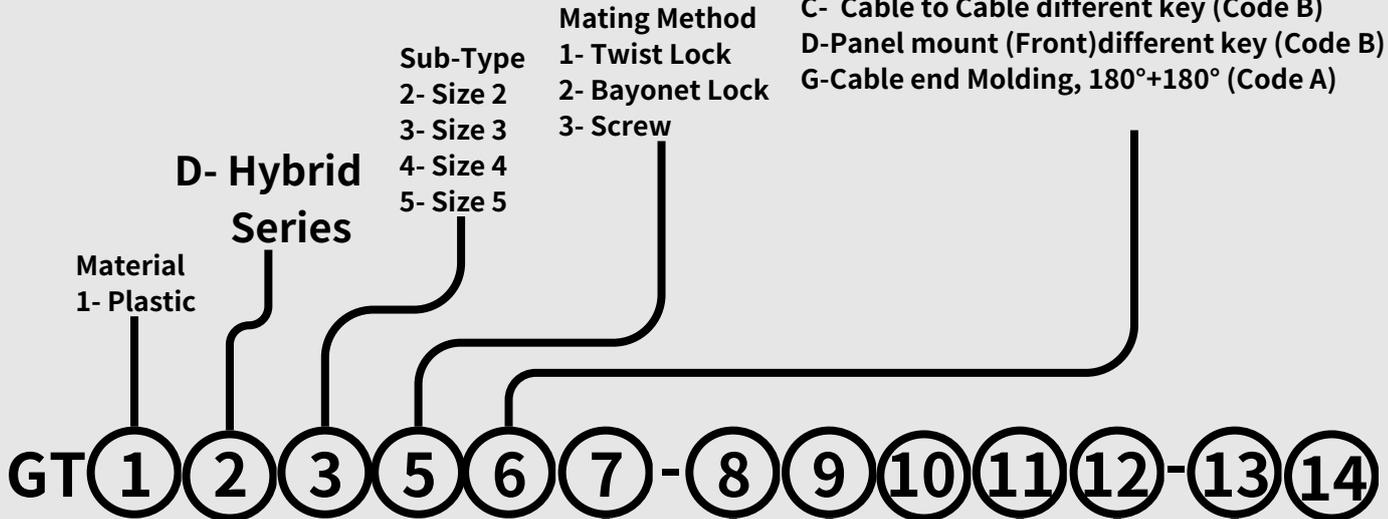


# Hybrid

## Part Numbering System

### Connector Type

- 0- Panel mount (Front)
- 1- Panel mount (Rear)
- 2- Cable end (Molding, 180°) (Code A)
- 3- Cable to Cable (Molding)
- 7- Cable end w/ Housing
- 8- Cable to Cable w/ Housing
- 9- Panel mount (Front) different key
- A-Cable end (Molding 180°) different key (Code B)
- B-Panel mount (Rear) different key (Code B)
- C- Cable to Cable different key (Code B)
- D-Panel mount (Front) different key (Code B)
- G-Cable end Molding, 180°+180° (Code A)



Material  
1- Plastic

D- Hybrid  
Series

Sub-Type  
2- Size 2  
3- Size 3  
4- Size 4  
5- Size 5

Mating Method  
1- Twist Lock  
2- Bayonet Lock  
3- Screw

### Pin Assembly

- 0- Female + Male
- 1- Male + Female
- 2- Female + Female
- 3- Male + Male
- 4- Dual head Female+Female to Male+Male
- 5- Dual head Female+Female to Female+Female
- 6- Three Pin types, Male/Male/Female
- 7- Three Pin types, Female/Female/Male
- 8- Three Pin types, Male/Male/Female(Shielded)
- 9- Three Pin types, Female/Female/Male(Shielded)

### Pin Type

- 0- Solder Pin
- 1- Dip Pin 180°
- 2- Crimp

### Current Rating

- 5- 20A+5A
- 6- 20A+2A
- 7- 15A+5A
- 8- 15A+2A
- 9- 10A+5A
- A- 10A+1A
- B- 25A+5A

### Number of Pins (Bigger Pin)

- 2- 2 Pin
- 3- 3 Pin
- 4- 4 Pin
- ⋮
- 9- 9Pin
- A- 10Pin
- B- 11Pin

### Number of Pins (Smaller Pin)

- 2- 2 Pin
- 3- 3 Pin
- 4- 4 Pin
- ⋮
- 9- 9Pin
- A- 10Pin
- B- 11Pin

Cable Type  
Various options  
Please contact us

### Cable Length

- Z 1 10 cm cable
- Z 2 20 cm cable
- ⋮
- 0 1 1 m cable
- 0 2 2 m cable
- ⋮
- A 0 100 m

# Specifications

## C2 Hybrid Engineering Specifications

### Specifications

|                       |                              |              |
|-----------------------|------------------------------|--------------|
| Current Rating        | 10A+1A                       |              |
|                       | 10A+5A                       |              |
| AWG Gauge             | 10A+1A                       | 18AWG, 26AWG |
|                       | 10A+5A                       | 18AWG, 22AWG |
| Operation temperature | With Cable -40°C / +85°C     |              |
|                       | Without Cable -40°C / +125°C |              |
| IP Rating             | IP67                         |              |

### Product Technical Data

| Characteristics                   | Standard                                  | Description  |   |
|-----------------------------------|---|--|---|
| Visual and Dimensional Inspection | EIA 364-18                                | Must meet or exceed the requirements specified by the most current version of the C2 Hybrid Specification. |   |
| Insulation Resistance             | EIA 364-21<br>or IEC 60512-3a             | DC500V±10% , test for 1 minute and the insulation resistance should be more than100MΩ                      |   |
| Dielectric Withstanding Voltage   | EIA 364-20<br>or IEC 60512-4a             | 10A+1A   | 1500 V AC contact-to-contact, for 1min.   |
|                                   |   | 10A+5A   | 1000 V AC contact-to-contact, for 1min.   |
| Contact Resistance                | EIA 364-06<br>Method B<br>or IEC 60512-2b | 10mΩ at 10mA Max.  |   |
| Pin Pull Test                     | EIA 364-08<br>or IEC 60512-16d            | 1.Initial: 24 N minimum.<br>2.After Test: 16 N minimum.  |   |
| Waterproof Test                   | IEC 60529                                 | Under 1 M water for 30 min.  |   |
| Durability                        | EIA 364-09<br>or IEC 60512-9a             | 10A+1A   | Screw type 500 cycles ,rate of 200 cycles per hour.<br>Lock type 200 cycles ,rate of 200 cycles per hour. |
|                                   |   | 10A+5A   | Lock type 200 cycles ,rate of 200 cycles per hour.  |

## Product Technical Data

| Characteristics                      | Standard  | Description  |
|--------------------------------------|---|--|
| Cable Pull-Out                       | EIA 364-38 Test Condition A<br>or IEC 60512-13a   | After the application of a steady state axial load of 40 N for one minute.   |
| Cable Flexing                        | EIA 364-41  | A traverse 180° in one direction plus 180° in the opposite direction shall be called one cycle, the cycling rate shall be 12 to 14 cycles per minute.<br>After completion of 100 cycles, test withstanding voltage and insulation resistance.  |
| Physical Shock                       | EIA 364 27 Test Condition H<br>or IEC 60512-6c  | No discontinuities of 1 μs or longer duration when mated C2 Hybrid connectors are subjected to 11 ms duration 30 Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks.   |
| Vibration                            | EIA 364-28<br>or IEC 60512-6d   | The electrical load conditions shall be 100mA maximum for all contacts. Frequency: 50 to 2000 Hz<br>PDS: 0.04 g <sup>2</sup> /Hz.<br>Duration: 1 Hour/Axis, 3 Axes Total.<br>g's: 7.56 g rms   |
| Thermal Shock                        | EIA 364-32 Test Condition VIII<br>or IEC 60512-11d  | 5 cycles at -40°C / +105°C, after the test, the function and appearance can't be impacted.   |
| Salt Spray                           | EIA 364-26<br>or IEC 60512-11f  | The test liquid (NaCl) thickness is 5%, Compressing the air pressure is 0.083Mpa, Spraying amount is 1~2 ml/80cm/h, Temperature of the pressure barrel is 43°C, LAB temperature is 35°C, relative humidity of LAB is 95%~98%, test time is 24hr, after the test, check if there is rusty and oxidized phenomenon |
| Temperature Life W/O Electrical Load | EIA364-17 Condition 3<br>or IEC 60512-9b  | 85°C for 96 Hours .  |
| Low Temperature                      | EIA364-59 Condition 3<br>or IEC 60512-11k   | -40°C for 96 Hours   |
| Temperature Humidity Cycling         | EIA 364-31, Method III Test Condition A   | 4 cycles at 25°C / +65°C 95%RH (1 cycles/day)  |
| UV Exposure                          | ASTM G154-06 operating fluorescent light apparatus for UV exposure of nonmetallic materials | 24 H equal 1 year:<br>8 h UV at 70 (±3) °C Black Panel Temperature<br>4 h Condensation at 50 (±3) °C Black Panel Temperature   |

# Specifications

## C4&C5 Hybrid Engineering Specifications

### Specifications

|                       |                              |
|-----------------------|------------------------------|
| Current Rating        | 600VAC/25A+30VDC/5A          |
| AWG Gauge             | 12AWG, 24AWG                 |
| Operation temperature | With Cable -40°C / +85°C     |
|                       | Without Cable -40°C / +125°C |
| IP Rating             | IP67                         |

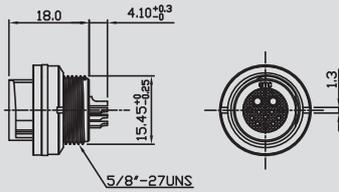
### Product Technical Data

| Characteristics                   | Standard                                     | Description   |
|-----------------------------------|--|---|
| Visual and Dimensional Inspection | EIA 364-18                                   | Must meet or exceed the requirements specified by the most current version of the C4/C5 Hybrid Specification.   |
| Insulation Resistance             | EIA 364-21 or IEC 60512-3a                   | DC 500V±10%, test for 1 minute and the insulation resistance should be more than100MΩ   |
| Dielectric Withstanding Voltage   | EIA 364-20 or IEC 60512-4a                   | Power Pin : 2500 V AC contact-to-contact, for 1min.   |
|                                   |  | Signal Pin : 500 V AC contact-to-contact, for 1min.   |
| Contact Resistance                | EIA 364-06 Method B or IEC 60512-2b          | 10mΩ at 10mA Max.   |
| Pin Pull Test                     | EIA 364-08 or IEC 60512-16d                  | 1. Initial : 24 N minimum.<br>2. After Test : 16 N minimum.   |
| Durability                        | EIA 364-09 or IEC 60512-9a                   | Lock type 200 cycles ,rate of 200 cycles per hour.  |
| Cable Pull-Out                    | EIA 364-38 or IEC 60512-13a Test Condition A | After the application of a steady state axial load of 40 N for one minute.  |
| Cable Flexing                     | EIA 364-41                                   | A traverse 180° in one direction plus 180° in the opposite direction shall be called one cycle, the cycling rate shall be 12 to 14 cycles per minute. After completion of 100 cycles, test withstanding voltage and insulation resistance |

## Product Technical Data

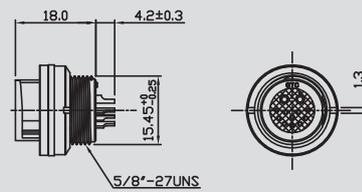
| Characteristics                            | Standard   | Description   |
|--|--|---|
| Physical Shock                             | EIA 364 27 Test Condition H<br>or IEC 60512-6c   | No discontinuities of 1 $\mu$ s or longer duration when mated C4/C5 Hybrid connectors are subjected to 11 ms duration 30 Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks.  |
| Vibration                                  | EIA 364-28<br>or IEC 60512-6d  | The electrical load conditions shall be 100mA maximum for all contacts. Frequency : 50 to 2000 Hz<br>PDS : 0.04 g <sup>2</sup> /Hz.<br>Duration : 1 Hour/Axis, 3 Axes Total.<br>g's: 7.56 g rms   |
| Thermal Shock                              | EIA 364-32 Test Condition VIII<br>or IEC 60512-11d   | 5 cycles at -40°C / +105°C, after the test, the function and appearance can't be impacted.  |
| Salt Spray                                 | EIA 364-26 or IEC 60512-11f  | The test liquid (NaCl) thickness is 5%, Compressing the air pressure is 0.083Mpa, Spraying amount is 1~2 ml/80cm/h, Temperature of the pressure barrel is 43 °C, LAB temperature is 35 °C, relative humidity of LAB is 95%~98%, test time is 24hr, after the test, check if there is rusty and oxidized phenomenon. |
| Waterproof Test                            | IEC 60529  | Under 1 M water for 30 min.   |
| Temperature Life<br>W/O Electrical<br>Load | EIA364-17 Condition 3<br>or IEC 60512-9b   | 85°C for 96 Hours .   |
| Low Temperature                            | EIA364-59 Condition 3<br>or IEC 60512-11k  | -40°C for 96 Hours  |
| Temperature<br>Humidity Cycling            | EIA 364-31, Method III Test<br>Condition A   | 4 cycles at 25°C / +65°C 95%RH (1 cycles/day)   |
| UV Exposure                                | ASTM G154-06 operating<br>fluorescent light apparatus for<br>UV exposure of nonmetallic<br>materials | 24 H equal 1 year:<br>8 h UV at 70 ( $\pm$ 3) °C Black Panel Temperature<br>4 h Condensation at 50 ( $\pm$ 3) °C Black Panel Temperature  |

C2 Plastic Panel Rear Mount Female Solder Lock (Code A)



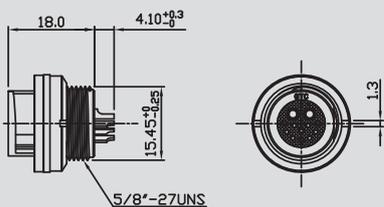
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D2212-0A2A0(S) | 10+1              | 2+10     |

C2 Plastic Panel Rear Mount Male Solder Lock (Code A)



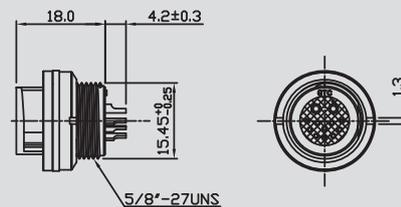
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D2213-0A2A0(S) | 10+1              | 2+10     |

C2 Plastic Panel Rear Mount Female Solder Lock (Code B)



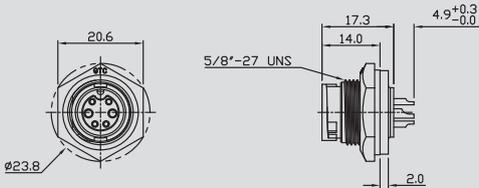
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D22B2-0A2A0(S) | 10+1              | 2+10     |

C2 Plastic Panel Rear Mount Male Solder Lock (Code B)



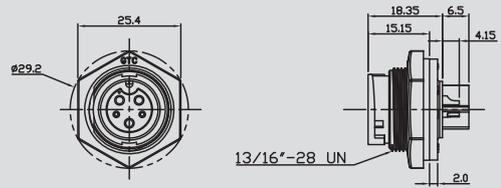
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D22B3-0A2A0(S) | 10+1              | 2+10     |

### C2 Plastic Panel Female Solder Lock



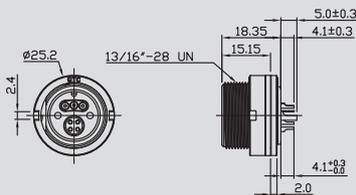
| P/N            | Rated current (A) | Contacts |
|----------------|-------------------|----------|
| GT1D2202-09240 | 5+10              | 2+4      |

### C3 Plastic Panel Female Solder Lock



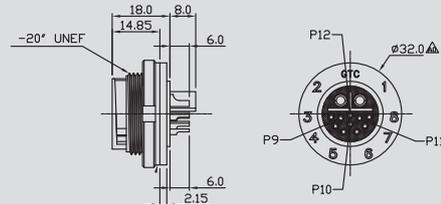
| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D3202-0A320(FS) | 10+2              | 3+2      |
| GT1D3202-08220     | 15+2              | 2+2      |
| GT1D3202-082A0(FS) | 15+2              | 2+10     |

### C3 Plastic Panel Male / Female Solder Screw



| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D3308-08270(S) | 15+2+2            | 2+3+4    |

### C4 Plastic Panel Female Solder Lock (Code A)



| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D4202-052A0(FS) | 25+5              | 2+10     |

C4 Plastic Panel Male Solder Lock (Code A)



C4 Plastic Panel Female Solder Lock (Code B)



| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D4203-052A0(FS) | 25+5              | 2+10     |

| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D4292-052A0(FS) | 25+5              | 2+10     |

C4 Plastic Panel Male Solder Lock (Code B)



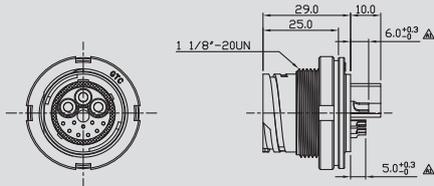
C5 Plastic Panel Female Twist Lock



| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D4293-052A0(FS) | 25+5              | 2+10     |

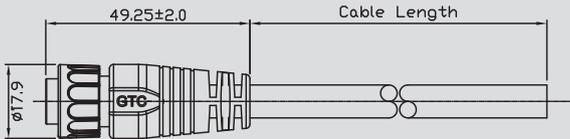
| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D5102-05390(FS) | 20+5              | 3+9      |
| GT1D5102-162J0(FS) | 20+2              | 2+18     |

## C5 Plastic Panel Male Twist Lock



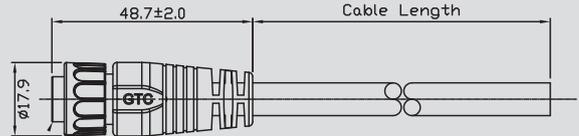
| P/N                | Rated current (A) | Contacts |
|--------------------|-------------------|----------|
| GT1D5103-05390(FS) | 20+5              | 3+9      |

**C2 Plastic Cable End Male Lock (Code A)**



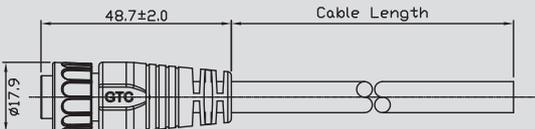
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D2223-2A2A1-XX | 10+1              | 2+10     |

**C2 Plastic Cable End Female Lock (Code A)**



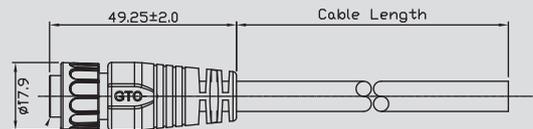
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D2222-2A2A1-XX | 10+1              | 2+10     |

**C2 Plastic Cable End Female Lock (Code B)**



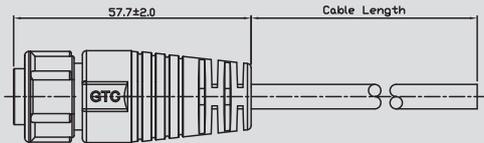
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D22A2-2A2A1-XX | 10+1              | 2+10     |

**C2 Plastic Cable End Male Lock (Code B)**



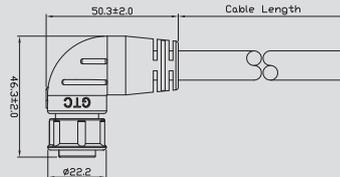
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D22A3-2A2A1-XX | 10+1              | 2+10     |

## C3 Plastic Cable End Male Lock



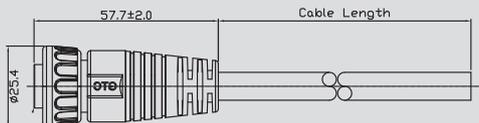
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D3223-0A327-XX | 10+2              | 3+2      |
| GT1D3223-28221-XX | 15+2              | 2+2      |

## C3 Plastic Cable End 90° Male Lock



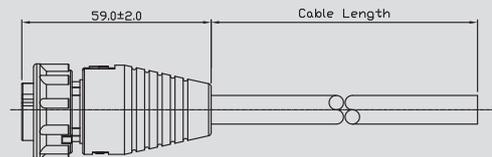
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D3263-282A1-XX(F) | 15+2              | 2+10     |

## C3 Plastic Cable End Male / Female Screw



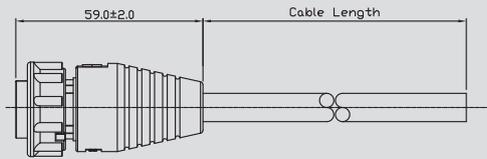
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D3329-08271-XX | 15+2+2            | 2+3+4    |

## C4 Plastic Cable End Female Lock (Code A)



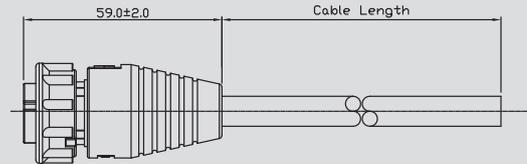
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D4222-052A8-XX(F) | 25+5              | 2+10     |

**C4 Plastic Cable End Male Lock (Code A)**



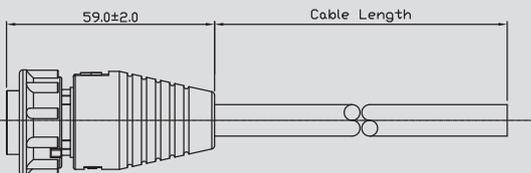
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D4223-052A8-XX(F) | 25+5              | 2+10     |

**C4 Plastic Cable End Female Lock (Code B)**



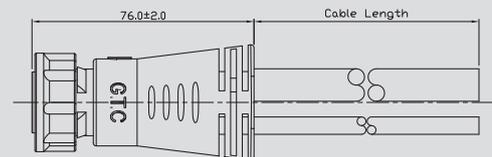
| P/N                  | Rated current (A) |
|----------------------|-------------------|
| GT1D42A2-052A8-XX(F) | 25+5              |

**C4 Plastic Cable End Male Lock (Code B)**



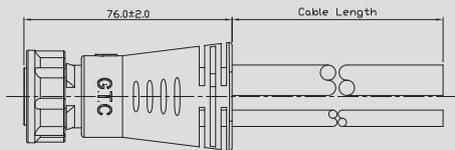
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D42A3-052A8-XX(F) | 25+5              | 2+10     |

**C5 Plastic Cable End Female Twist Lock**



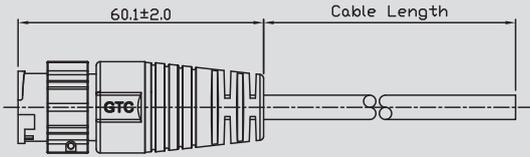
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D5122-2539X-XX(F) | 20+5              | 3+9      |

## C5 Plastic Cable end Male Twist Lock



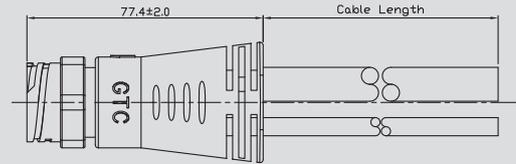
| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D5123-2539X-XX(F) | 20+5              | 3+9      |
| GT1D5123-262J1-XX(F) | 20+2              | 2+18     |

**C3 Plastic Cable To Cable Female Lock with Cable**



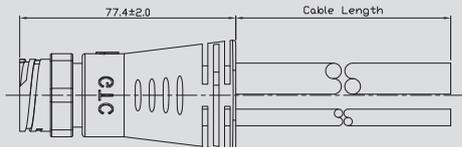
| P/N               | Rated current (A) | Contacts |
|-------------------|-------------------|----------|
| GT1D3232-0A327-XX | 10+2              | 3+5      |

**C5 Plastic Cable to Cable Female Twist Lock with Cable**



| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D5132-2539X-XX(F) | 20+5              | 3+9      |

**C5 Plastic Cable to Cable Male Twist Lock with Cable**



| P/N                  | Rated current (A) | Contacts |
|----------------------|-------------------|----------|
| GT1D5133-2539X-XX(F) | 20+5              | 3+9      |

C2 Plastic Field Installable Cable End Male Crimp Lock



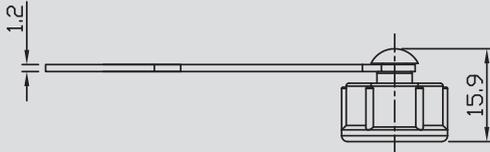
| P/N            | Rated current (A) | Contacts |
|----------------|-------------------|----------|
| GT1D2243-29240 | 5+10              | 4+2      |

C2 Plastic Field Installable Cable To Cable Female Crimp Lock

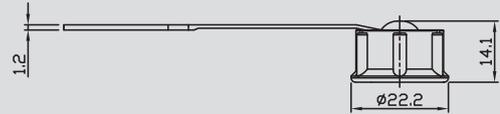


| P/N            | Rated current (A) | Contacts |
|----------------|-------------------|----------|
| GT1D2252-29240 | 5+10              | 4+2      |

Cap Plastic For C2 Lock Panel



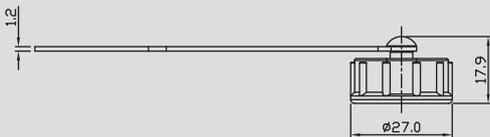
Cap Plastic for C3 Lock Panel



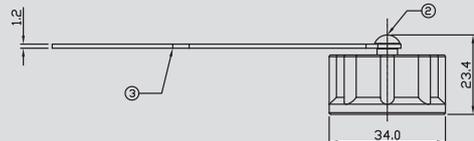
| P/N        | Mating Series No. |
|------------|-------------------|
| GT1C5221X2 | GT1D22B2 Series   |
|            | GT1D22B3 Series   |
|            | GT1D2202 Series   |
|            | GT1D2212 Series   |
|            | GT1D2213 Series   |

| P/N        | Mating Series No. |
|------------|-------------------|
| GT1C5321X2 | GT1D3202 Series   |
|            | GT1D3202 Series   |

Cap Plastic For C4 Lock Panel



Cap Plastic for C5 Twist Lock Panel



| P/N        | Mating Series No. |
|------------|-------------------|
| GT1C5421X2 | GT1D4202 Series   |
|            | GT1D4203 Series   |
|            | GT1D4292 Series   |
|            | GT1D4293 Series   |

| P/N        | Mating Series No. |
|------------|-------------------|
| GT1C5511X2 | GT1D5102 Series   |
|            | GT1D5103 Series   |



[www.gtcontact.com](http://www.gtcontact.com)

### Contact Information

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