

| APPLICABLE STANDARD                                               |                             | UL, C-UL, TUV STANDARD (Appendix 1)                                                                                                                                                    |                                                                                                                                                                      |                                                                                                         |          |  |  |
|-------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------|--|--|
| RATING                                                            | Operating Temperature Range | −40 °C TO +105 °C (Note 1)<br>(Included temperature rise caused by current-carrying)                                                                                                   | Storage Temperature Range                                                                                                                                            | −40 °C TO +60 °C (Note 2)                                                                               |          |  |  |
|                                                                   | Voltage                     | Power: (Appendix 1)<br>Signal: AC, DC 250 V                                                                                                                                            | Current                                                                                                                                                              | Power: 150A (UL, C-UL, TUV) (Appendix 1)<br>: 210A (Derating curve: 25°C)<br>(Appendix 2)<br>Signal: 1A |          |  |  |
|                                                                   | Applicable Wire             | 14sq to 50sq<br>(AWG#5 to AWG#1/0)                                                                                                                                                     |                                                                                                                                                                      | ※The Rating Current for each applicable wire size can be found in table 3.                              |          |  |  |
| SPECIFICATIONS                                                    |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| ITEM                                                              |                             | TEST METHOD                                                                                                                                                                            |                                                                                                                                                                      | REQUIREMENTS                                                                                            |          |  |  |
| CONSTRUCTION                                                      |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| General Examination                                               |                             | Visually and by measuring instrument.                                                                                                                                                  |                                                                                                                                                                      | According to drawing.                                                                                   | X X      |  |  |
| Marking                                                           |                             | Confirmed visually.                                                                                                                                                                    |                                                                                                                                                                      |                                                                                                         | X X      |  |  |
| ELECTRICAL CHARACTERISTICS                                        |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| Contact Resistance                                                |                             | Power: DC 1 A<br>Signal: 100 mA (DC OR 1000Hz) MAX.                                                                                                                                    | Power: 0.3 mΩ MAX.<br>Signal: 60 mΩ MAX. (Note 3)<br>(Assurance test is only signal)                                                                                 | X                                                                                                       | X        |  |  |
| Insulation Resistance                                             |                             | 250 V DC                                                                                                                                                                               | 5000 MΩ MIN.                                                                                                                                                         | X                                                                                                       | —        |  |  |
| Voltage Proof                                                     |                             | Power: 2000 V AC. for 1 min.<br>Signal: 650 V AC. for 1 min.                                                                                                                           | No flashover or breakdown.<br>(Assurance test is only signal)                                                                                                        | X                                                                                                       | X        |  |  |
| MECHANICAL CHARACTERISTICS                                        |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| Mating and Unmating Forces                                        |                             | Measured by applicable connector at a speed of 30 mm ± 3 mm/min.                                                                                                                       | Mating force : 137.2 N MAX.                                                                                                                                          | X                                                                                                       | —        |  |  |
|                                                                   |                             |                                                                                                                                                                                        | Unmating force : 137.2 N MAX.                                                                                                                                        | X                                                                                                       | —        |  |  |
| Mechanical Operation                                              |                             | 100 times insertions and extractions at a speed of 600 times/hour.<br>(GT8E of signal part: 30 times insertions and extraction)                                                        | ① Contact resistance change: Power 0.5 mΩ MAX.<br>Signal 40 mΩ MAX. (Note 3)<br>② No damage, crack and looseness of parts.                                           | X                                                                                                       | —        |  |  |
| Vibration                                                         |                             | Frequency : 10 to 55 Hz, single amplitude 0.75 mm, at 5 min/cycle, 10 cycles each in 3 axial directions. 30 cycles in total.                                                           | ① No electrical discontinuity of 10 μs.<br>② No damage, crack and looseness of parts.                                                                                | X                                                                                                       | —        |  |  |
| Shock                                                             |                             | 490 m/s <sup>2</sup> , duration of pulse 11 ms, for 3 times in 3 both axial directions.                                                                                                |                                                                                                                                                                      | X                                                                                                       | —        |  |  |
| ENVIRONMENTAL CHARACTERISTICS                                     |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| Rapid Change of Temperature                                       |                             | Temperature −40 → 105 °C<br>Time 30 → 30 min<br>Chamber transfer time is 2 to 3 min.<br>Conduct 5 cycles of above cycles (mated) and exposed in the room temperature for 1 to 2 hours. | ① Contact resistance change: Power 0.5 mΩ MAX.<br>Signal 40 mΩ MAX. (Note 3)<br>② Insulation resistance : 1000 MΩ MIN.<br>③ No damage, crack and looseness of parts. | X                                                                                                       | —        |  |  |
| Humidity Life                                                     |                             | After exposure at temperature 40±2 °C, humidity 90 to 95 %, for 96 h (mated), exposed at room temperature for 1 to 2 hour.                                                             | ① Contact resistance change: Power 0.5 mΩ MAX.<br>Signal 40 mΩ MAX. (Note 3)<br>② Insulation resistance : 1000 MΩ MIN.<br>③ No damage, crack and looseness of parts. | X                                                                                                       | —        |  |  |
| Heat Resistance                                                   |                             | After exposure at temperature 105±2 °C, humidity for 96 h (mated), exposed at room temperature for 1 to 2 hour.                                                                        | ① Contact resistance change: Power 0.5 mΩ MAX.<br>Signal 40 mΩ MAX. (Note 3)<br>② Insulation resistance : 1000 MΩ MIN.<br>③ No damage, crack and looseness of parts. | X                                                                                                       | —        |  |  |
| COUNT                                                             | DESCRIPTION OF REVISIONS    |                                                                                                                                                                                        | DESIGNED                                                                                                                                                             | CHECKED                                                                                                 | DATE     |  |  |
| △                                                                 |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| REMARK                                                            |                             |                                                                                                                                                                                        | APPROVED                                                                                                                                                             | MN. KENJO                                                                                               | 20230130 |  |  |
|                                                                   |                             |                                                                                                                                                                                        | CHECKED                                                                                                                                                              | KG. OKITA                                                                                               | 20230130 |  |  |
|                                                                   |                             |                                                                                                                                                                                        | DESIGNED                                                                                                                                                             | MO. SHIMOYAMA                                                                                           | 20230127 |  |  |
|                                                                   |                             |                                                                                                                                                                                        | DRAWN                                                                                                                                                                | MO. SHIMOYAMA                                                                                           | 20230127 |  |  |
| Unless otherwise specified, refer to IEC 60512.                   |                             |                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                         |          |  |  |
| Note QT: Qualification Test AT: Assurance Test X: Applicable Test |                             | DRAWING NO.                                                                                                                                                                            | ELC-128099-11-00                                                                                                                                                     |                                                                                                         |          |  |  |
| HRS                                                               | SPECIFICATION SHEET         |                                                                                                                                                                                        | PART NO.                                                                                                                                                             | PS3-2US/12S/16S (11)                                                                                    |          |  |  |
|                                                                   | HIROSE ELECTRIC CO., LTD.   |                                                                                                                                                                                        | CODE NO                                                                                                                                                              | CL0236-1043-5-11                                                                                        | △ 1/9    |  |  |



(Note 1) The operation temperature includes the temperature rise by current carrying.  
(Note 2) Storage temperature range shows storage condition for unused products including packing materials. Follow the operating temperature range for storage condition after mounting.  
(Note 3) Contact resistance of signal parts are the value that contains GT8E connector.

|                                                                                     |                           |            |                  |                      |                                                                                           |
|-------------------------------------------------------------------------------------|---------------------------|------------|------------------|----------------------|-------------------------------------------------------------------------------------------|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |                           | DRAWING NO | ELC-128099-11-00 |                      |                                                                                           |
|  | SPECIFICATION SHEET       |            | PART NO          | PS3-2US/12S/16S (11) |                                                                                           |
|                                                                                     | HIROSE ELECTRIC CO., LTD. |            | CODE NO          | CL0236-1043-5-11     |  3/9 |

Accompanying drawing

Appendix 1. Condition of safety standard(UL, C-UL, TUV STANDARD)

This item got approved by safety standard(UL, C-UL, TUV STANDARD)  
under the condition of table 1 and table 2.  
Safety standard is different up to the applied rated voltage and current  
please see the table 1 and table 2.

Table 1. UL, C-UL condition

|                        | Condition 1                          | Condition 2                            |
|------------------------|--------------------------------------|----------------------------------------|
| Current voltage(AC/DC) | 600V                                 |                                        |
| Current rating         | 100A                                 | 150A                                   |
| Cable                  | 14 to 22sq<br>AWG#5 to AWG#3<br>(*1) | 38 to 50sq<br>AWG#1 to AWG#1/0<br>(*1) |
| Creepage distance(*2)  | MIN:3.2mm                            |                                        |
| Clearance distance(*2) | MIN:3.2mm                            |                                        |

Table 2. TUV conditon

| Table 2: 10V condition |                                                                                                            |              |               |
|------------------------|------------------------------------------------------------------------------------------------------------|--------------|---------------|
|                        | Condition I                                                                                                | Condition II | Condition III |
| Current voltage(AC/DC) | 800V                                                                                                       | 600V         | 1000V         |
| Current rating         | 100A(cable 14 to 22sq , AWG#5 to AWG#3 *1)<br>125A(cable 38sq , AWG#1 *1)<br>150A(cable 50sq , AWG#1/0 *1) |              |               |
| Over voltage category  | II                                                                                                         | III          |               |
| Pollution degree       | 3                                                                                                          |              |               |
| Creepage distance(*2)  | MIN:12.6mm                                                                                                 | MIN:12.6mm   | MIN:16mm      |
| Clearance distance(*2) | MIN:6mm                                                                                                    | MIN:6mm      | MIN:8mm       |
| Insulation system      | Basic insulation(panel has the earth)                                                                      |              |               |

\*1 : As screws and crimp terminal attached with power contact have an impact on the creepage distance and the clearance distance, please use recommended screws and crimp terminals.  
In case you use cables other than following recommended screws and contacts,  
please be careful that the creepage distance and the clearance distance meet the standard of UL, C-UL, TUV.

-Recommended screw : JIS B 1188 spring washer + cross recessed pan head screw with captive polished circular washer M6 X 12

-Recommended crimp terminal

Cable 14sq : JIS C 2805 R14-6

Cable 22sq : JIS C 2805 R22-6

Cable 38sq : Manufactured by NICHIFU CO.,LTD R38-6S

Cable 50sq : Manufactured by NICHIFU CO.,LTD R60-6S

\*2: The coverage of the creepage distance and the clearance distance is as follows.

-Between crimp terminals

-Between power contact and panel

-Between crimp terminal and panel

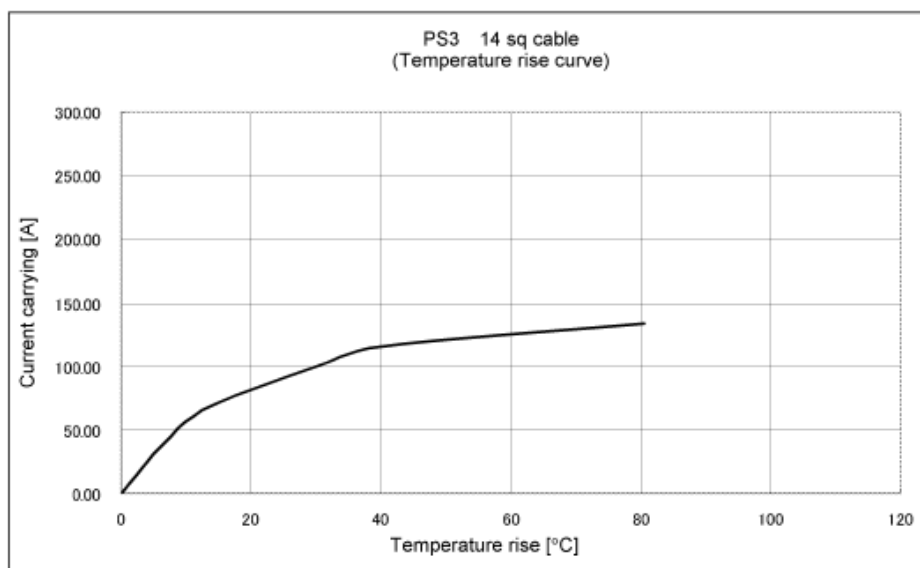
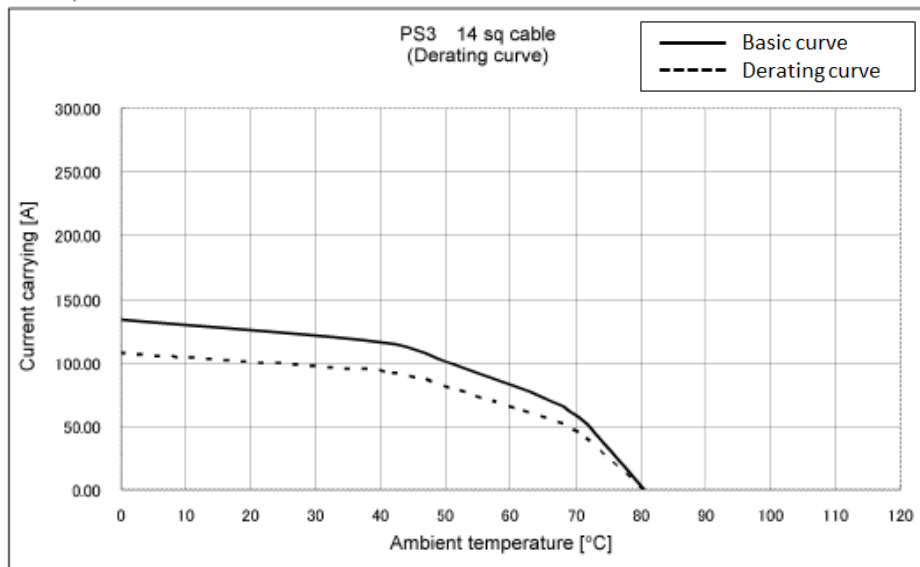
-Between screws (attacehd with power contact) and panel

|                                                                                     |                           |            |                  |                     |                                                                                           |
|-------------------------------------------------------------------------------------|---------------------------|------------|------------------|---------------------|-------------------------------------------------------------------------------------------|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |                           | DRAWING NO | ELC-128099-11-00 |                     |                                                                                           |
|  | SPECIFICATION SHEET       |            | PART NO          | PS3-2US/12S/16S(11) |                                                                                           |
|                                                                                     | HIROSE ELECTRIC CO., LTD. |            | CODE NO*         | CL0236-1043-5-11    |  4/9 |

Accompanying drawing

Appendix 2. Derating curve (reference)

i. 14 sq cable



- Note 1 : Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the base curve multiplied by 0.8 calculation.
- 2 : The value of rated current differs depending on the ambient temperature.  
It is recommended to use the product within the derating curve zone.  
If used under UL or TUV STANDARD, please refer to the appendix 1.
- 3 : Measurement method of derating curve is shown below.
- Test specimen : PS3-2UP(11) (male contact)  
PS3-2US(11) (female contact)
  - Test cable spec : 14 mm<sup>2</sup> (AWG#5)
  - Test condition : Turn on electricity under the static state and measure.  
(Test report # TR0236E-20255)

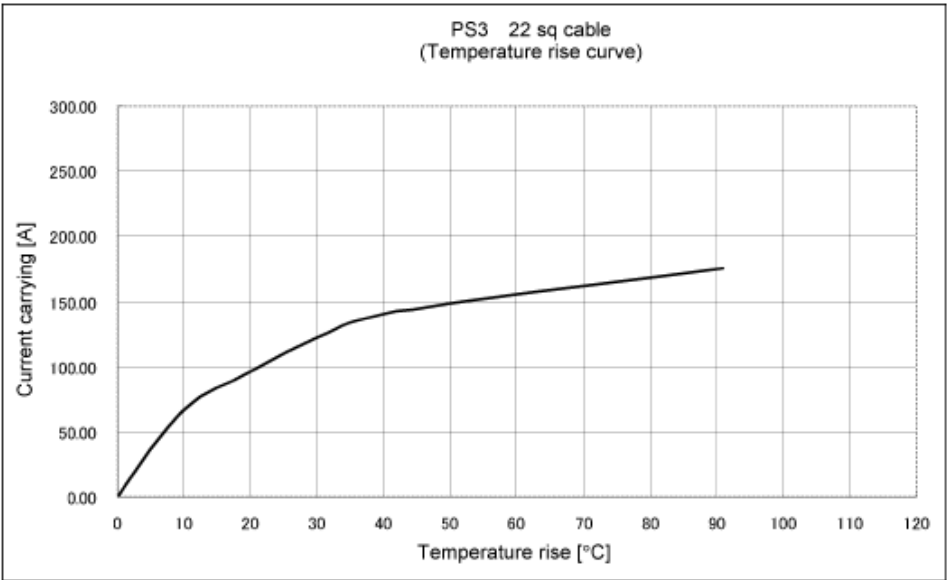
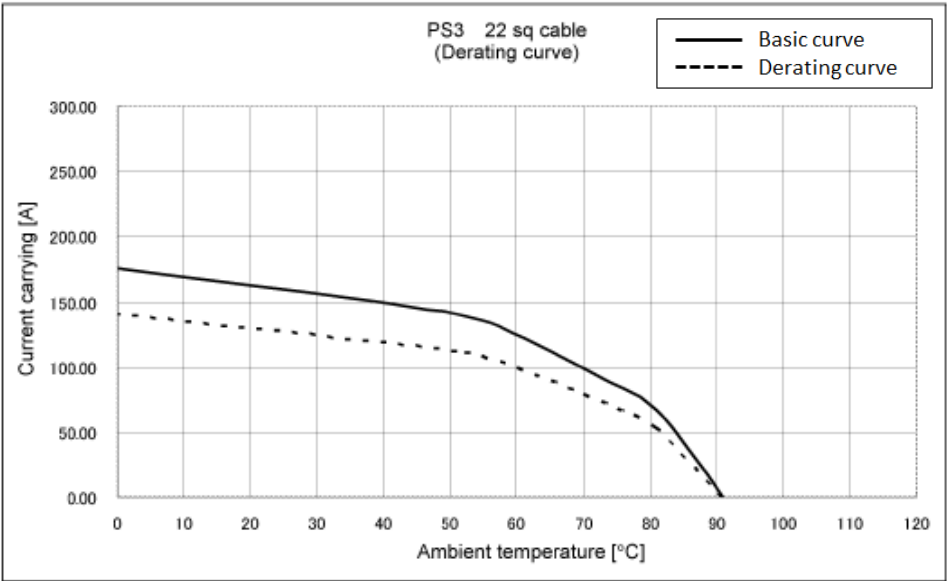
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|----------------------------------------------------------------|---------------------------|------------|---------------------|-----|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                           | DRAWING NO | ELC-128099-11-00    |     |
|                                                                | SPECIFICATION SHEET       |            | PART NO             |     |
|                                                                | HIROSE ELECTRIC CO., LTD. |            | PS3-2US/12S/16S(11) |     |
|                                                                |                           | CODE NO*   | CL0236-1043-5-11    | 5/9 |

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Accompanying drawing

Appendix 2. Derating curve (reference)

ii. 22 sq cable



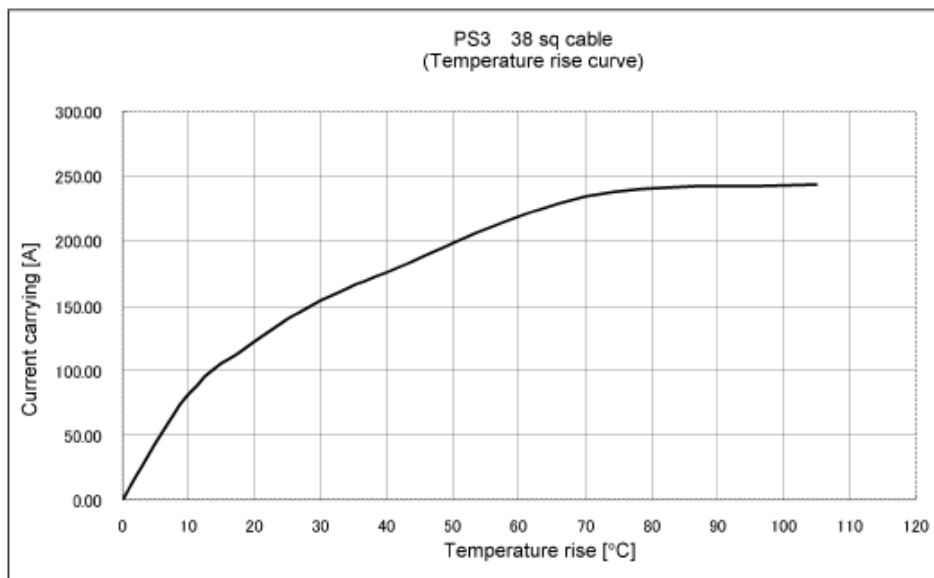
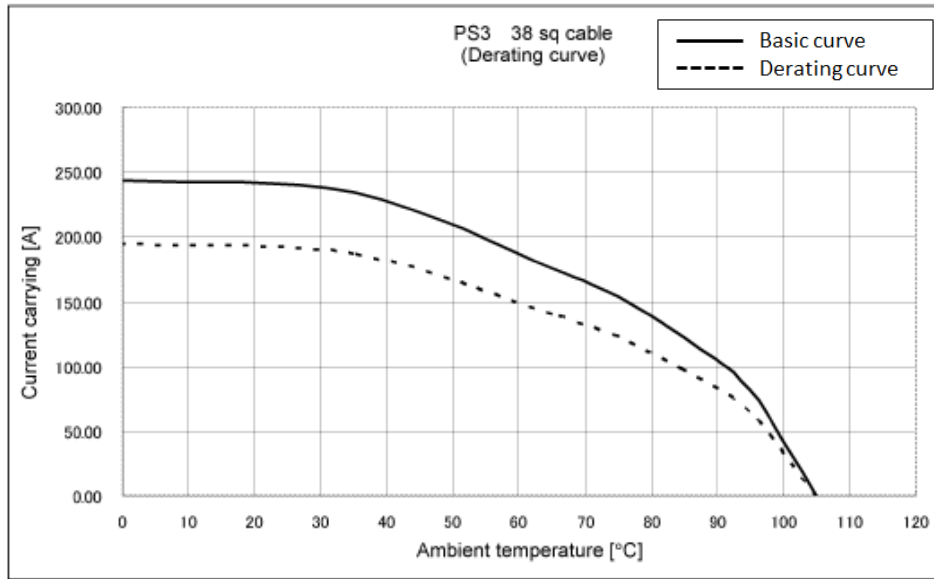
- Note 1 : Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the base curve multiplied by 0.8 calculation.
- 2 : The value of rated current differs depending on the ambient temperature.  
It is recommended to use the product within the derating curve zone.  
If used under UL or TUV STANDARD, please refer to the appendix 1.
- 3 : Measurement method of derating curve is shown below.
- Test specimen : PS3-2UP (11) (male contact)  
PS3-2US (11) (female contact)
  - Test cable spec : 22 mm<sup>2</sup> (AWG#3)
  - Test condition : Turn on electricity under the static state and measure.  
(Test report # TR0236E-20255)

|                                                                |                           |            |                  |                      |     |
|----------------------------------------------------------------|---------------------------|------------|------------------|----------------------|-----|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                           | DRAWING NO | ELC-128099-11-00 |                      |     |
|                                                                | SPECIFICATION SHEET       |            | PART NO          | PS3-2US/12S/16S (11) |     |
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Accompanying drawing

Appendix 2. Derating curve (reference)

iii. 38 sq cable



- Note 1 : Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the base curve multiplied by 0.8 calculation.
- 2 : The value of rated current differs depending on the ambient temperature.  
It is recommended to use the product within the derating curve zone.  
If used under UL or TUV STANDARD, please refer to the appendix 1.
- 3 : Measurement method of derating curve is shown below.
- Test specimen : PS3-2UP (11) (male contact)  
PS3-2US (11) (female contact)
  - Test cable spec : 38 mm<sup>2</sup> (AWG#1)
  - Test condition : Turn on electricity under the static state and measure.  
(Test report # TR0236E-20255)

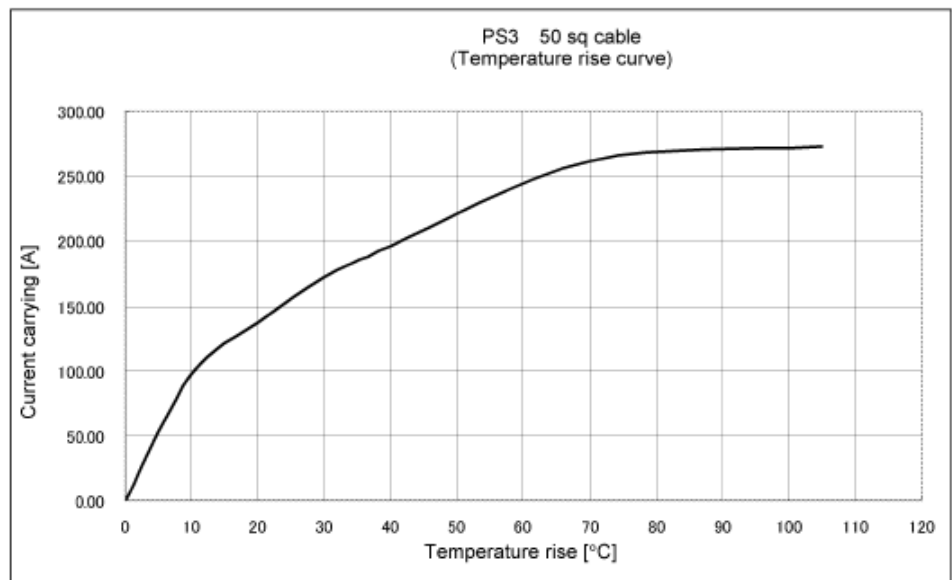
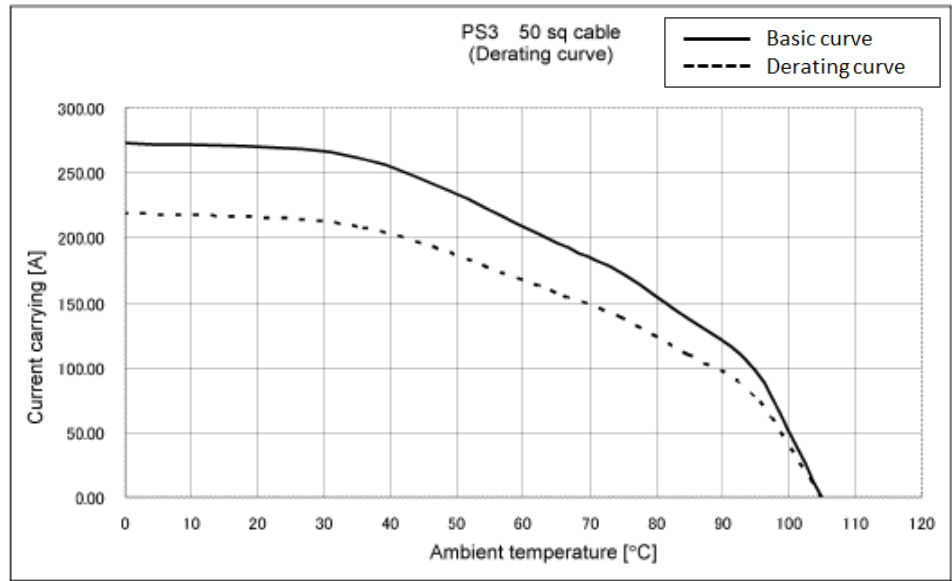
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|----------------------------------------------------------------|---------------------------|------------|------------------|----------------------|-----|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                           | DRAWING NO | ELC-128099-11-00 |                      |     |
|                                                                | SPECIFICATION SHEET       |            | PART NO          | PS3-2US/12S/16S (11) |     |
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Accompanying drawing

Appendix 2. Derating curve (reference)

iv. 50 sq cable



- Note 1 : Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the base curve multiplied by 0.8 calculation.
- 2 : The value of rated current differs depending on the ambient temperature.  
It is recommended to use the product within the derating curve zone.  
If used under UL or TUV STANDARD, please refer to the appendix 1.
- 3 : Measurement method of derating curve is shown below.
- Test specimen : PS3-2UP (11) (male contact)  
PS3-2US (11) (female contact)
  - Test cable spec : 50 mm<sup>2</sup> (AWG#1/0)
  - Test condition : Turn on electricity under the static state and measure.  
(Test report # TR0236E-20255)

|                                                                |                           |            |                      |     |
|----------------------------------------------------------------|---------------------------|------------|----------------------|-----|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                           | DRAWING NO | ELC-128099-11-00     |     |
|                                                                | SPECIFICATION SHEET       |            | PART NO              |     |
|                                                                | HIROSE ELECTRIC CO., LTD. |            | PS3-2US/12S/16S (11) |     |
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Accompanying drawing

Table 3. List of the rated current for each applicable wire size.

| <div>STANDARD</div> <div>Applicable wire</div> | UL/C-UL<br>(Appendix 1) | TUV<br>(Appendix 1) | Derataing curve<br>Ambient temperature 25°C<br>(Appendix 2) |
|------------------------------------------------|-------------------------|---------------------|-------------------------------------------------------------|
| 14mm <sup>2</sup> , AWG#5                      | 100A                    | 100A                | 100A                                                        |
| 22mm <sup>2</sup> , AWG#3                      | 100A                    | 100A                | 125A                                                        |
| 38mm <sup>2</sup> , AWG#1                      | 150A                    | 125A                | 190A                                                        |
| 50mm <sup>2</sup> , AWG#1/0                    | 150A                    | 150A                | 210A                                                        |

|                                                                                     |                           |            |                  |                      |                                                                                           |
|-------------------------------------------------------------------------------------|---------------------------|------------|------------------|----------------------|-------------------------------------------------------------------------------------------|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |                           | DRAWING NO | ELC-128099-11-00 |                      |                                                                                           |
|  | SPECIFICATION SHEET       |            | PART NO          | PS3-2US/12S/16S (11) |                                                                                           |
|                                                                                     | HIROSE ELECTRIC CO., LTD. |            | CODE NO*         | CL0236-1043-5-11     |  9/9 |