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APPLICABLE STANDARD		UL, C-UL、TUV STANDARD (Appendix 1)		
RATING	Operating Temperature Range	−40 ℃ TO +105 ℃ (Note 1) (Included temperature rise caused by current-carrying)	Storage Temperature Range	−40 ℃ TO +60 ℃ (Note 2)
	Voltage	Power: (Appendix 1) Signal:AC, DC 250 V	Current	Power:150A(UL, C-UL, TUV) (Appendix 1) :210A(Derating curve:25℃) (Appendix 2) Signal:1A ※The Rating Current for each applicable wire size can be found in table 3.
	Applicable Wire	14sq to 50sq (AWG#5 to AWG#1/0)		

SPECIFICATIONS

ITEM	TEST METHOD	REQUIREMENTS	QT	AT
CONSTRUCTION				
General Examination	Visually and by measuring instrument.	According to drawing.	X	X
Marking	Confirmed visually.		X	X
ELECTRICAL CHARACTEREISTICS				
Contact Resistance	Power:DC 1 A Signal:100 mA(DC OR 1000Hz)MAX.	Power:0.3 mΩ MAX. Signal:60 mΩ MAX. (Note 3) (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. Signal:650 V AC. for 1 min.	No flashover or breakdown. (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. (GT8E of signal part:30 times insertions and extraction)	① Contact resistance change:Power 0.5 mΩ MAX. Signal 40 mΩ MAX. (Note 3) ② No damage, crack and looseness of parts.	X	—
Vibration	Frequency : 10 to 55 Hz, singe 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. ② No damage, crack and looseness of parts.	X	—
Shock	490 m/s², duration of pulse 11 ms, for 3 times in 3 both axial directions.		X	—
ENVIRONMENTAL CHARACTERISTICS				
Rapid Change of Temperature	Temperature −40 → 105 ℃ Time 30 → 30 min Chamber transfer time is 2 to 3 min. 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. Signal 40 mΩ MAX. (Note 3) ② Insulation resistance : 1000 MΩ MIN. ③ No damage, crack and looseness of parts.	X	—
Humidity Life	After exposure at temperature 40±2 ℃, humidity 90 to 95 %, for 96 h (mated), exposed at room temperatrure for 1 to 2 hour.	① Contact resistance change:Power 0.5 mΩ MAX. Signal 40 mΩ MAX. (Note 3) ② Insulation resistance : 1000 MΩ MIN. ③ No damage, crack and looseness of parts.	X	—
Heat Resistance	After exposure at temperature 105±2 ℃, humidity for 96 h (mated), exposed at room temperatrure for 1 to 2 hour.	① Contact resistance change:Power 0.5 mΩ MAX. Signal 40 mΩ MAX. (Note 3) ② Insulation resistance : 1000 MΩ MIN. ③ No damage, crack and looseness of parts.	X	−

	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
⚠	1	DIS-E-00000869	TA.TORIHARA	AH.KODAMA	17.04.14

REMARK

Unless otherwise specified, refer to IEC 60512.

APPROVED	NM.NISHIMATSU	14.10.20
CHECKED	NM.NISHIMATSU	14.10.20
DESIGNED	WR.YAMADA	14.10.20
DRAWN	WR.YAMADA	14.10.20

Note QT:Qualification Test AT:Assurance Test X:Applicable Test

	DRAWING NO.	ELC4-128099-00	
HRS	SPECIFICATION SHEET	PART NO.	PS3-2US/12S/16S
	HIROSE ELECTRIC CO., LTD.	CODE NO	CL236-1043-5-00 ⚠1

FORM HD0011-2-1

⚠1 DIS-E-00000869 Inscription changes regarding Rating Current and others.

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ITEM	TEST METHOD	REQUIREMENTS	QT	AT
ENVIRONMENTAL CHARACTERISTICS				
Cold Resistance	After exposure at −40±3 °C, 96 h (mated) exposed at room temperatrur for 1 to 2 hour.	① Contact resistance change:Power 0.5 mΩ MAX. Signal 40 mΩ MAX. (Note 3) ② Insulation resistance : 1000 MΩ MIN. ③ No damage, crack and looseness of parts.	X	—
Corrosion Salt Mist	After exposure in 35±2°C, 5±1% salt water spray for 48±4 h (mated), washed with water, dried at normal temperature and humidity for 24 hours.	No heavy corrosion that lose function.	X	—

(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 resitance of signal parts are the value that contains GT8E connector.

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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 AWG#5 to AWG#3 (*1)	38 to 50sq AWG#1 to AWG#1/0 (*1)
Creepage distance(*2)	MIN:3.2mm	
Clearance distance(*2)	MIN:3.2mm	

Table 2. TUV conditon

	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) 125A(cable 38sq , AWG#1 *1) 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.

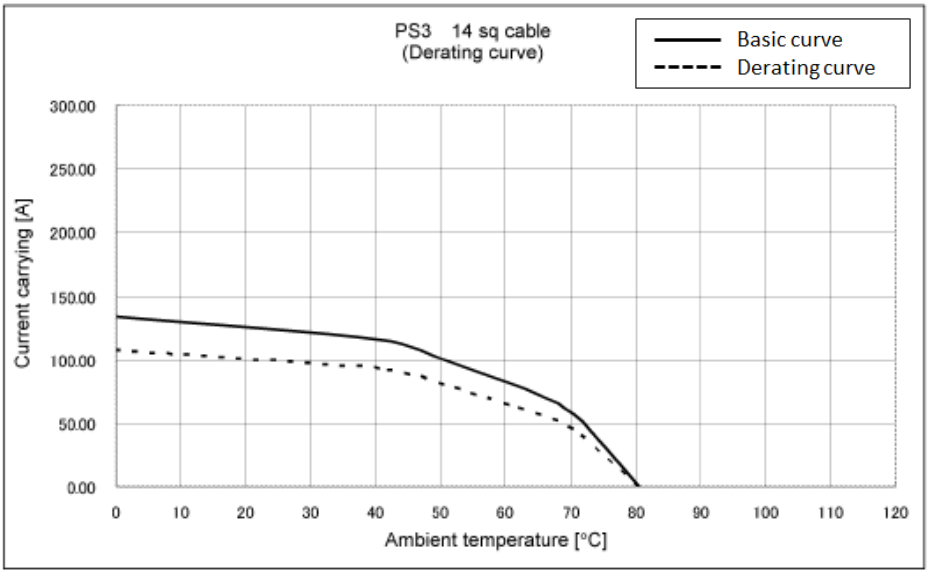
-Recommended screw : JIS B 1188 spring washer + cross recessed pan head screw with captive polished circular washer M6 X 12
-Recommended crimp terminal
Cable 14sq : JIS C 2805 R14-6
Cable 22sq : JIS C 2805 R22-6
Cable 38sq : Manufactured by NICHIFU CO.,LTD R38-6S
Cable 50sq : Manufactured by NICHIFU CO.,LTD R60-6S

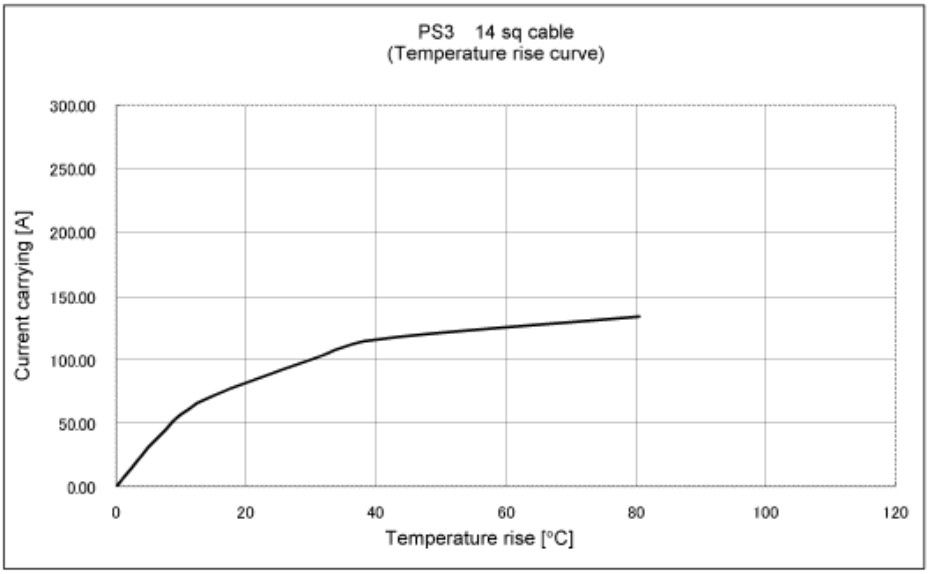
*2: The coverage of the creepage distance and the clearance distance is as follows.
-Between crimp terminals
-Between power contact and panel
-Between crimp terminal and panel
-Between screws (attacehd with power contact) and panel

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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.

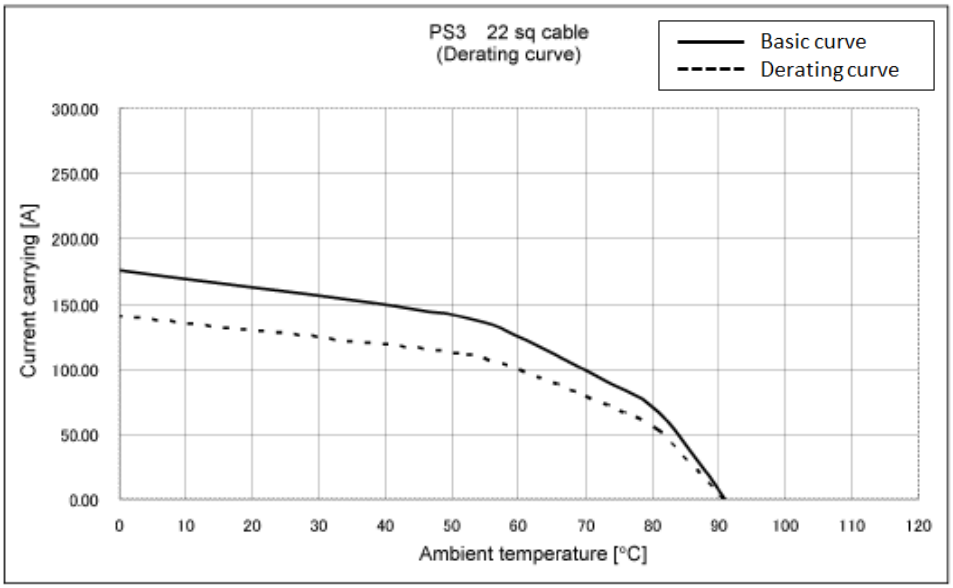
2 : The value of rated current differs depending on the ambient temperature.
It is recommended to use the product within the derating curve zone.
If used under UL or TUV STANDARD, please refer to the appendix 1.

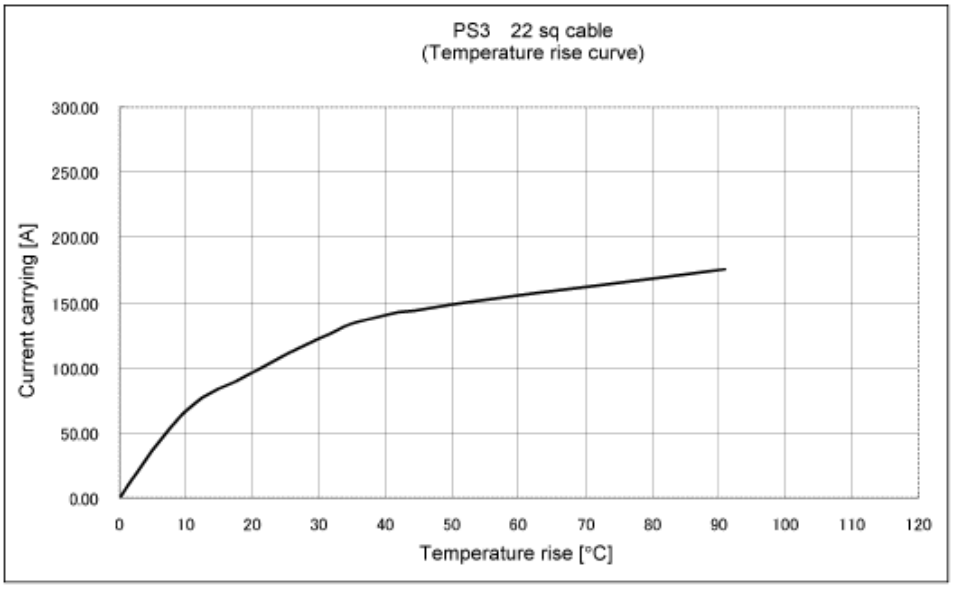
3 : Measurement method of derating curve is shown below.
-Test specimen : PS3-2UP(male contact side connector)
PS3-2US(female contact side connector, using the same contacts as the here handled PS3-2US/12S/16S)
-Test cable spec : 14 mm^2 (AWG#5)
-Test condition : Turn on electricity under the static state and measure.
(Test report # TR0236E-20255)

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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.

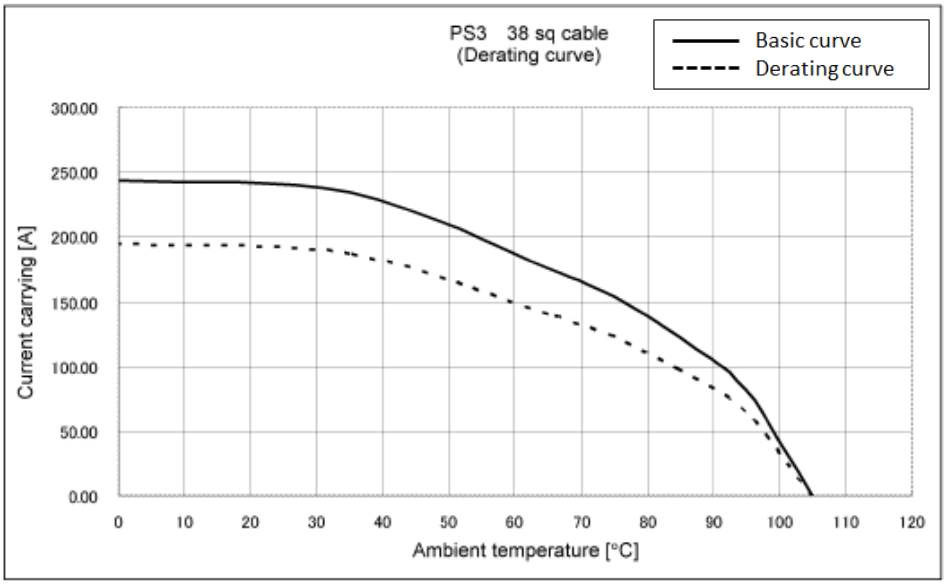
2 : The value of rated current differs depending on the ambient temperature.
It is recommended to use the product within the derating curve zone.
If used under UL or TUV STANDARD, please refer to the appendix 1.

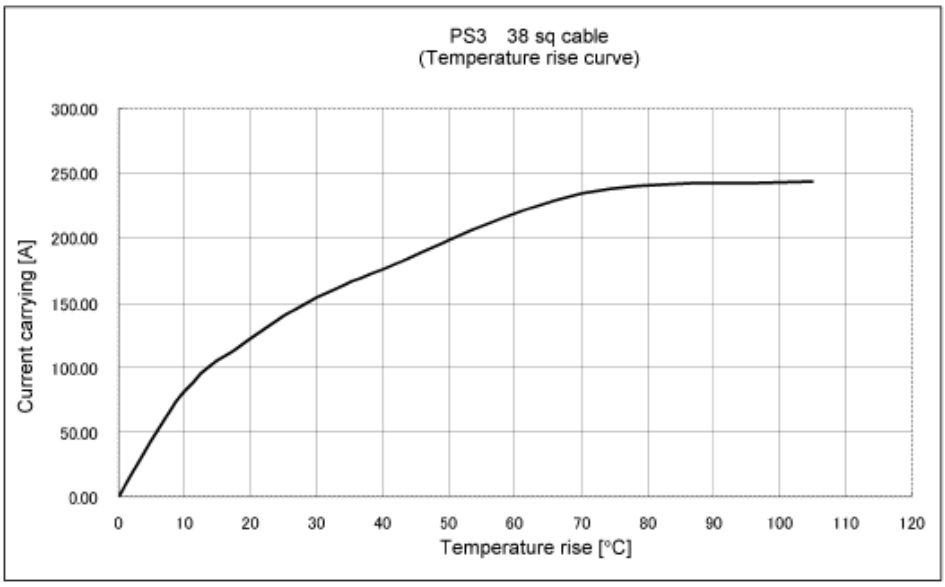
3 : Measurement method of derating curve is shown below.
-Test specimen : PS3-2UP(male contact side connector)
PS3-2US(female contact side connector, using the same contacts as the here handled PS3-2US/12S/16S)
-Test cable spec : 22 mm^2 (AWG#3)
-Test condition : Turn on electricity under the static state and measure.
(Test report # TR0236E-20255)

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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.

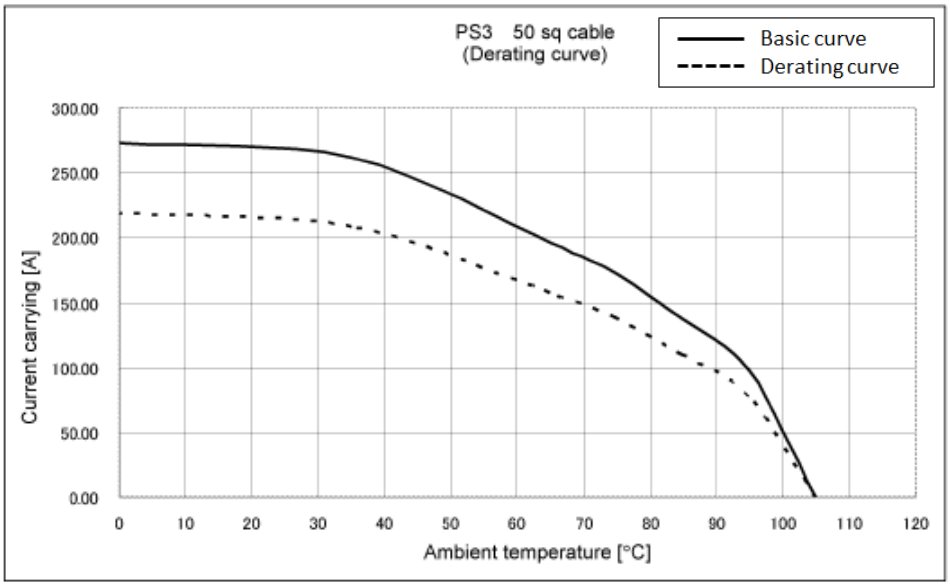
2 : The value of rated current differs depending on the ambient temperature.
It is recommended to use the product within the derating curve zone.
If used under UL or TUV STANDARD, please refer to the appendix 1.

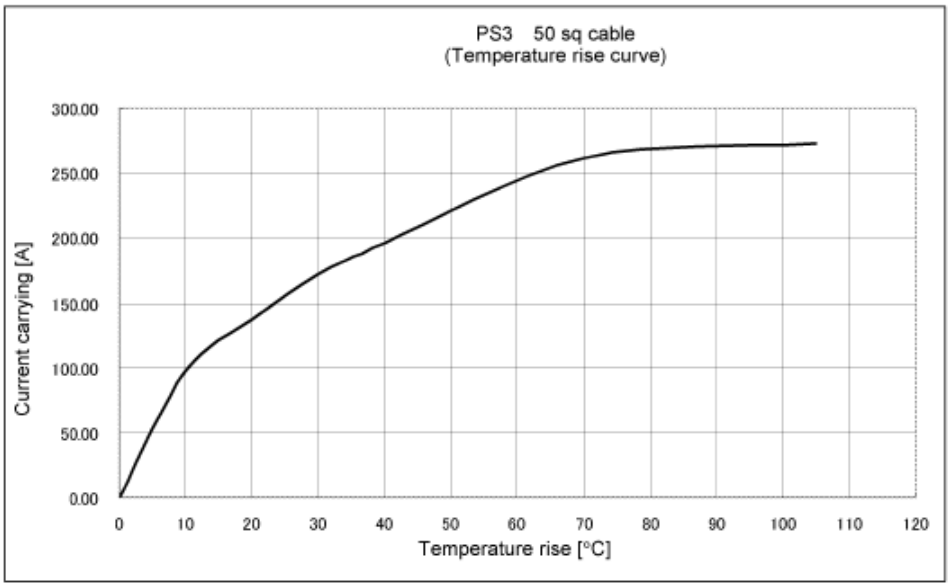
3 : Measurement method of derating curve is shown below.
-Test specimen : PS3-2UP(male contact side connector)
PS3-2US(female contact side connector, using the same contacts as the here handled PS3-2US/12S/16S)
-Test cable spec : 38 mm^2 (AWG#1)
-Test condition : Turn on electricity under the static state and measure.
(Test report # TR0236E-20255)

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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(male contact side connector)
PS3-2US(female contact side connector, using the same contacts as the here handled PS3-2US/12S/16S)
-Test cable spec : 50 mm^2 (AWG#1/0)
-Test condition : Turn on electricity under the static state and measure.
(Test report # TR0236E-20255)

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

STANDARD / Applicable wire	UL／C-UL (Appendix 1)	TUV (Appendix 1)	Derataing curve Ambient temperature 25℃ (Appendix 2)
14mm², AWG#5	100A	100A	100A
22mm², AWG#3	100A	100A	125A
38mm², AWG#1	150A	125A	190A
50mm², AWG#1/0	150A	150A	210A

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