



# PRODUCT SPECIFICATION

## PRODUCT SPECIFICATION FOR 3994X (BEAU 94) SERIES PLUGGABLE PCB TERMINAL BLOCKS

### 1.0 SCOPE

This Product Specification covers the following 5.08 mm (.200 inch) centerline (pitch) pluggable PCB terminal block series with tin or gold plating.

DESCRIPTION	FRONT WIRE ENTRY (FWE)		REAR WIRE ENTRY (RWE)	
	TIN PLATING	GOLD PLATING	TIN PLATING	GOLD PLATING
No mounting ends	3994003XX	3994103XX	3994002XX	3994102XX
With captive retention screws	3994005XX	3994105XX	3994004XX	3994104XX
With panel mounting flange	3994007XX	3994107XX	3994006XX	3994106XX

Where "XX" refers to the quantity of circuit positions, 02 – 24.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 3994X SERIES PLUGGABLE PCB TERMINAL BLOCKS

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

A. ALL OF THESE ITEMS ARE DESCRIBED ON THE INDIVIDUAL SALES DRAWINGS

B. MATERIALS USED

I. HOUSING MATERIAL: NYLON 66/6 (PA 66/6), UNFILLED, UL94V-0

1. COLOR: BLACK

II. TERMINAL: PHOSPHOR BRONZE

1. TIN FINISH: HOT TIN DIP, THICKNESS= 0.8 µm (30 µin) MIN.

2. GOLD FINISH: 0.25 µm (10 µin) MIN. SELECT GOLD IN CONTACT AREA, 3.8 µm (150 µin) MIN. SELECT TIN IN WIRE ENTRY AREA. 1.3 µm (50 µin) MIN. NICKEL UNDERPLATE OVERALL.

III. SCREW: STEEL

1. FINISH: ZINC, THICKNESS= 5.1 µm (200 µin) MIN. WITH TRIVALENT CLEAR CHROMATE CONVERSION COATING

IV. HEX NUT: STEEL

1. FINISH: ZINC, THICKNESS= 5.1 µm (200 µin) MIN. WITH TRIVALENT CLEAR CHROMATE CONVERSION COATING

#### 2.3 SAFETY AGENCY APPROVALS

A. UL FILE #E48521 – RECOGNIZED: USR, CNR

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DOCUMENT NUMBER: <b>PS-39940-001</b>	CREATED / REVISED BY: <b>C. YORK</b>	CHECKED BY: <b>D. TITUS</b>	APPROVED BY: <b>D. TITUS</b>



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## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 UL 1059 Standard for Terminal Blocks

3.2 CSA C22.2 No. 158-1987, The Standard for Terminal Blocks

3.3 UL 486E Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors

## 4.0 RATINGS

### 4.1 VOLTAGE

UL CLASS B: 300 Volts AC (RMS)

UL CLASS D: 300 Volts AC (RMS)

### 4.2 CURRENT

15 Amps – UL CLASS B

10 Amps – UL CLASS D

### 4.3 WIRE RANGE

12 AWG – 22 AWG (3.3 mm<sup>2</sup> – 0.3 mm<sup>2</sup>)

### 4.4 TEMPERATURE

Operating: - 40°C to + 90°C

Nonoperating: - 40°C to + 120°C

4.6 WIRE STRIP LENGTH: 6.4 mm (.25 in)

4.7 SCREWDRIVER: #2 Phillips or 1/4" [6.4 mm (.250 in)] Slotted

### 4.8 TIGHTENING TORQUE

4.8.1 WIRING SCREW: 0.79 N-m (7 in-lb)

4.8.2 CAPTIVE RETENTION SCREW: 0.34 N-m (3 in-lb) max.

4.8.3 PANEL MOUNTING SCREW: 1.36 N-m (12 in-lb) max.

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## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Temperature Rise	Appropriately mount the connectors, apply rated current and measure the temperature rise once it has stabilized per UL 1059.	Temperature rise: <b>+30°C MAXIMUM</b>
2	Static Heating (12 AWG)	Appropriately mount the connectors, apply a current of <b>25 A</b> and measure the temperature rise once it has stabilized per UL 486E	Temperature rise: <b>+50°C MAXIMUM</b>
3	Dielectric Withstanding Voltage (Agency)	Unmate connectors: apply a voltage of <b>1600 VAC</b> for <b>1</b> minute between adjacent terminals and between terminals to ground per UL 1059.	No breakdown

### 5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	Secureness Test (12 AWG)	A <b>0.9 kg (2 lb)</b> weight is to be held per UL486E, section 12 and CSA C22.2 NO. 158.	Joint between terminal and wire must remain intact for <b>30</b> minutes MINIMUM
5	Wire Pullout Force (Axial, Min Wire Size, 22 AWG)	Apply an axial pullout force for <b>1</b> minute on the wire per UL 486E, Section 14.	<b>20 N (4.5 lbf)</b> MINIMUM pullout force
6	Wire Pullout Force (Axial, Max Wire Size, 12 AWG)	Apply an axial pullout force for <b>1</b> minute on the wire per UL 486E, Section 14 following secureness test.	<b>60 N (13.5 lbf)</b> MINIMUM pullout force
7	Terminal Retention	Force required to dislodge terminals from the housing, applied at a rate of <b>25 ± 6 mm (1 ± ¼ inch)</b> per minute, in the direction opposite terminal insertion.	<b>89 N (20 lbf)</b> MINIMUM
8	Wiring Screw Rated Torque	Tighten screw to <b>110%</b> rated torque [ <b>0.87 N-m (7.7 in-lb)</b> ] with max. and min. wire sizes and loosen <b>5</b> times per UL 1059.	No damage to housing, terminal, or screw

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## 5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
8	Accelerated Aging Test	Subject parts to $105 \pm 1^\circ\text{C}$ for a time of 7 days (168 hours).	No evidence of blistering, cracking, softening, or melting.

## 6.0 PACKAGING

Parts shall be tray packaged to protect against damage during handling, transit and storage.

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