



PRODUCT SPECIFICATION

SINGLE / MULTI CIRCUIT HOUSINGS FOR QUICK CONNECT (PUSH-ON) TYPE TERMINALS

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DOCUMENT NUMBER: PS-94090-001	CREATED / REVISED BY: S. BARBIERI	CHECKED BY: L. SANTESSO	APPROVED BY: P. ZANGIROLAMI



PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the technical and quality requirements of the housings used to support and insulate male and female terminals with or without locking lance.

2.0 GENERAL CHARACTERISTICS

2.1 MATERIALS

The base materials are:

- 1) PA 66, natural color, V2 rated according to UL 94. The colored versions (black, red, green, yellow) may have different UL 94 ratings but all (natural included) conform to GWT 850 °C.
- 2) PA 66, V2 or V0 rated, flame retardant according to the norm EN 60335-1 4a Ed. and IEC 60695-2-11.

2.2 APPEARANCE

The housings shall not show defects like cuts or holes (not typical of the part), short shots and visible (naked eye) flashes. The housing walls may show different degrees of opacity (or transparency) depending on the used PA66 material and their thickness.

2.3 DIMENSIONS

All the dimensions of the housings must be within tolerance, as per the relevant drawings. All the housings that shall be inter-mated shall not present any interference during the mating, except that due to the action of locking devices, if present.

3.0 PRODUCT FEATURES

3.0.1 OPERATING TEMPERATURE

Includes the temperature rising of the terminal due to the flowing current:
from -40 °C to +105 °C.

3.0.2 NON OPERATING TEMPERATURE

Temperature of the environment surrounding the parts): from -40 °C to +85 °C.

3.0.3 INSULATION RESISTANCE

$IR > 10^{12} \text{ohm}$ (500 Vcc, 60 sec).

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3.0.4 RATED VOLTAGE

Unless otherwise specified, typical rated voltage is 250V.

3.1 TERMINAL INSERTION FORCE INTO THE HOUSING

The insertion force value can vary depending on the terminal-housing structure. The terminals can be classified into different groups:

- type "A": without locking lance
- type "B": with locking lance
- type "C": flag style (see note after table 1).

The reference values are indicated in the following table 1 according to the type of housing.

3.2 TERMINAL WITHDRAWAL FORCE FROM THE HOUSING

The reference values are indicated in the following table 1:

	TERMINAL SERIES:			
	Z 280 type A	Z480 type A	Z 630 type A	Z 630 Type B
INSERTION N max	15	20	20	15
WITHDRAWAL N min	60 *	80 *	100 *	60 *

* These values are reduced by 30% when material 2 (see point 2.1) is used.

NOTE: housings for "flag type" terminals are also used. No reference insertion/withdrawal force values are indicated for these in table 1, because of substantial differences in the available versions. See the relevant Sales Drawings for reference.

3.3 CONNECTOR MATING FORCE

The force necessary to mate the female connector with the male one is given by the mating force of a single couple of terminals multiplied by the total number of circuits (see product specification PS 94030 E, for quick connect type terminals).

3.4 CONNECTORS WITHDRAWAL FORCE

The force necessary to un-mate the female connector with the male one is given by the withdrawal force of a single couple of terminals multiplied by the total number of circuits (see product specification PS 94030 E, for quick connect type terminals). If a locking device is present, then the above mentioned figures should be incremented by the relevant mating/unmating forces.

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4.0 QUALIFICATION TESTS

4.1 DRY HEAT TEST

A first group of housings shall be subjected to this test in a oven at 105 °C for 6 hours, followed by recovery at room conditions (23 ± 3 °C, 50 ± 10 % R.H.) for 24 hours. The mating / unmating forces shall be as specified at points 3.5 and 3.6.

4.2 DAMP HEAT TEST

A second group of housings shall be subjected to this test in a chamber at 40 °C and 90-95 % R.H. for 6 hours, followed by recovery at room conditions (23 ± 3 °C, 50 ± 10 % R.H.) for 24 hours. The mating/unmating forces shall be as specified at points 3.5 and 3.6.

5.0 ACCEPTANCE CONTROL

The internal acceptance tests shall be performed on the characteristics and according to the criteria here below indicated.

The control plan shall be according to MIL-STD 105D, simple sampling plan, 2nd control level.

CONTROLLED PARAMETERS	AQL
VISUAL INSPECTION	
Part integrity	0.1
Small flashes	1.5
DIMENSIONAL CONTROL	0.65
TERMINAL INSERTION / WITHDRAWAL FORCES INTO THE HOUSING	0.65
INSULATION RESISTANCE BETWEEN ADJACENT TERMINALS	0.65

6.0 PACKAGING

Parts shall be packed loose in plastic bag, inside carton box.

Plastic bags are sealed and contain water for part moisturizing (according to AS-45499-001 norm).

Customer shall moisturize parts (according to AS-45499-001 norm) in case partial bags are re-sealed at their site.

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