### **Functional Characteristics**



**Dimensional Class:** 



Standard Colour:

Green



Height:

21.5 mm (.846 in)



#### Max Approved Wire sections:

Solid: 6 mm² (IMQ); 10 AWG (UL) Stranded: 4 mm² (IMQ); 10 AWG (UL) Clamp Opening Size:

3.8 x 3.2 mm (.150 x .126 in)



Versions:

Modular

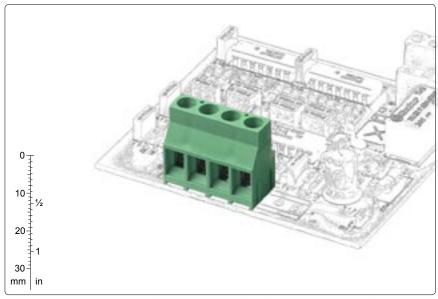
Single Mould Poles:

from 2 to 5



## Pitches:

Imperial 6.35 mm, 9.52 mm, 12.7 mm (.250 in, .375 in, 0.500 in)





pitch 6.35 mm from 2 to 5 poles straight, modular



pitch 9.52 mm from 2 to 5 poles Straight, modular



pitch 12.7 mm from 2 to 3 poles Straight, modular



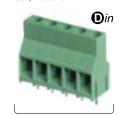
pitch 6.35 mm from 2 to 5 poles 90°, modular



pitch 6.35 mm from 2 to 5 poles 35°, modular



Design-in custom configuration



Design-in from 2 to 5 poles straight, modular

# **Brief Description**

With the MSP modular series terminal blocks for PCBs, wires up to 6mm² (10 AWG) can be used and consequently a current range of 41A certified can be reached.

It is available in Imperial Pitches from 2.54 mm (.100 in) and from 5.08 mm (.200 in) in monolithic blocks from 2 to 12 poles, with insertion of the wire parallel, inclined at  $35^{\circ}\,$  or vertical in relation to the PCB.

All the housings are modular, therefore it is possible to compose the monolithic terminal blocks from 2 to 25 poles separately, or to compose the basic terminal blocks until any number of poles is obtained. By taking advantage of this particular characteristic a minimum stock of basic

terminal blocks can be kept.

It is simple to manage the product, the warehouse and the assembly with the Kit packages because several versions can be received with only one code, the part-numbers are significantly reduced and the risk of making mistakes is also reduced.



# **Characteristics of Components**

M3.5 nickel plated Copper Alloy Screw.

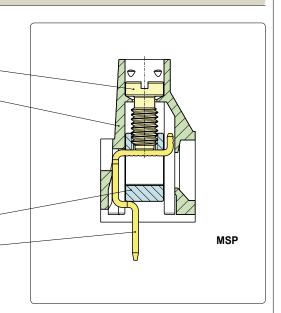
PA 6.6.Polyamide Housing.

Standard Colour: GREEN.

V0 Self-extinguishing according to UL 94.

Chlorinated solvents resistant, with no Phosphor, Dioxin or dentrimental to health Halogens.

- Nickel plated Copper Alloy Clamp
- Easy to solder lead-free tin-plated Copper Alloy Pin.



# Mechanical characteristics

| Recommended/Highest tightening torque | 0.8/1.0 Nm (7/8.85 lbf in)          |
|---------------------------------------|-------------------------------------|
| PCB Thickness:                        | max. 4 mm (.157 in)                 |
| PCB Hole Diameter:                    | min. 1.3 mm (.051 in)               |
| Stripping length                      | 7 ÷ 8 mm (.28 ÷ .31 in)             |
| Operating temperature range           | -40 °C ÷ +110 °C (-40 °F ÷ +230 °F) |
| Climatic category                     | 40/110/21 According to EN 60068-1   |

# Electric characteristics\*

| Solid wire section  | 30÷10 AWG (UL, CSA)* 0.05 ÷ 6 mm² (IMQ)* |
|---|--|
| Stranded wire section                                     | 30÷10 AWG (UL, CSA)* 0.05 ÷ 4 mm² (IMQ)* |
| Rated voltage for 6.35 mm (.250 in)                       | 450 V (UL, CSA)*                         |
| Rated voltage for 9.52 mm (.375 in) and 12.7 mm (.500 in) | 750 V (IMQ)*                             |
| Rated current   | 41 A (IMQ)*                              |
| Contact resistance  | <15 mΩ                                   |
| Insulation resistance                                     | >10 <sup>9</sup> Ω (500V DC)             |

<sup>\*</sup>All the above mentioned data refer to the highest values amongst the certificated ones.

V voltage, I current values and tightening torque are related to the norms to be applied to the product and to its use.

### **Approvals**



CE: 450 V - T 110 - 41 A - 6 mm² solid (32 A - 4 mm² stranded) for 6.35 mm (.250 in) pitch

300 V - 30 A - 30÷10 AWG for 6.35 mm (.250 in) pitch

750 V - T 110 - 41 A - 6 mm<sup>2</sup> solid (32 A - 4 mm<sup>2</sup> stranded) for 9.52 mm (.375 in) 12.7 mm (.500 in) pitch

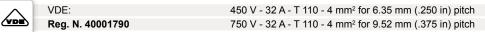
c**71**2'us

File E 167473 600 V - 30 A - 30÷10 AWG for 9.52 mm (.375 in) and 12.7 mm (.500 in) pitch

Application values for end-use equipment have to be in accordance to UL norms and applicable to it.



CSA: 450 V - 32 A - 30÷10 AWG for 6.35 mm (.250 in) pitch File LR 102896 600 V - 32 A - 30÷10 AWG for 9.52 mm (.375 in) pitch



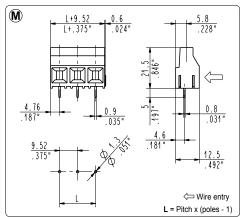


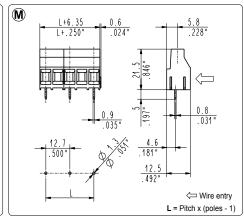
IMQ: 450 V - T 110 - 41 A - 6 mm² solid (32 A - 4 mm² stranded) for 6.35 mm (.250 in) pitch

File: CA02.00899 750 V - T 110 - 41 A - 6 mm² solid (32 A - 4 mm² stranded) for 9.52 mm (.375 in) pitch

Wire entry

L = Pitch x (poles - 1)





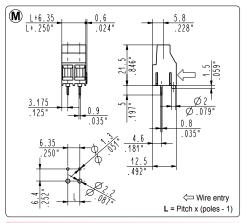
MSP

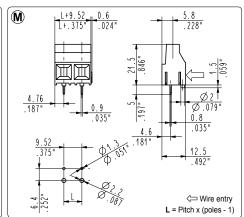
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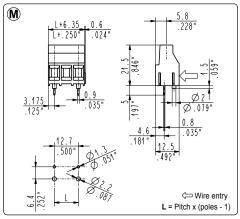
| MSP00S                |          | Straight, Modular-Side Entry |         |            |            |
|-----------------------|----------|------------------------------|---------|------------|------------|
| 6.35 mm / .250" Pitch |          |                              | Weig    | ght per po | le: 3.08 g |
| Poles                 | STD Code | Pcs/pack.                    | W [kg]* | Pcs/Ind.** | W [kg]*    |
| 02                    | MSP0200S | 200                          | 1,23    | 1000       | 6,16       |
| 03                    | MSP0300S | 125                          | 1,16    | 750        | 6,93       |
| 04                    | MSP0400S | 100                          | 1,23    | 500        | 6,16       |
| 05                    | MSP0500S | 75                           | 1,16    | 500        | 7,70       |
|                       |          |                              |         |            |            |

4.6 .181"

| MSP_   | 00N              | Straigh   | t, Mod  | lular-Sid  | e Entry    | MSP_   | _00U             | Straigh   | it, Mod | lular-Sid  | e Entry    |
|--------|------------------|-----------|---------|------------|------------|--------|------------------|-----------|---------|------------|------------|
| 9.52 n | nm / .375" Pitch |           | Weig    | ght per po | le: 3.53 g | 12,7 m | nm / .500" Pitch |           | Wei     | ght per po | le: 3.68 g |
| Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.*  | ' W [kg]*  | Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.*  | * W [kg]*  |
| 02     | MSP0200N         | 150       | 1,06    | 750        | 5,30       | 01     | MSP0100U         | 200       | 0,74    | 1000       | 3,68       |
| 03     | MSP0300N         | 100       | 1,06    | 500        | 5,30       | 02     | MSP0200U         | 125       | 0,92    | 750        | 5,52       |
|        |                  |           |         |            |            | 03     | MSP0300U         | 75        | 0,83    | 500        | 5,52       |
|        |                  |           |         |            |            |        |                  |           |         |            |            |



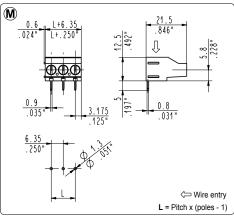


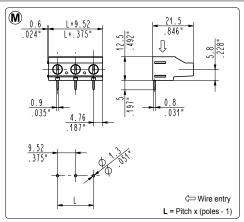


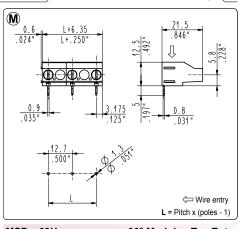
| MSP   | 00S-0000P        | Straight  | with Vd | e Pegs, Si | de Entry |
|-------|------------------|-----------|---------|------------|----------|
| 6.35  | mm / .250" Pitch |           |         | t per po   |          |
| Poles | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.** | W [kg]*  |
| 02    | MSP0200S-0000P   | 200       | 1,23    | 1000       | 6,16     |
| 03    | MSP0300S-0000P   | 125       | 1,16    | 750        | 6,93     |
|       |                  |           |         |            |          |

| MSP    | 00N-0000P        | Straight  | with Vd | e Pegs, Si | de Entry  |
|--------|------------------|-----------|---------|------------|-----------|
| 9.52 ı | mm / .375" Pitch |           | Weig    | ht per pol | e: 3.53 g |
| Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.** | W [kg]*   |
| 02     | MSP0200N-0000P   | 150       | 1,06    | 750        | 5,30      |
| 03     | MSP0300N-0000P   | 100       | 1,06    | 500        | 5,30      |
|        |                  |           |         |            |           |

| MISH   | 000-0000P        | Straight  | with va | e Pegs, Si | ue ⊑ntry  |
|--------|------------------|-----------|---------|------------|-----------|
| 12,7 ı | mm / .500" Pitch |           | Weig    | ht per pol | e: 3.68 g |
| Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.** | W [kg]*   |
| 02     | MSP0200U-0000P   | 125       | 0,92    | 750        | 5,52      |
| 03     | MSP0300U-0000P   | 75        | 0,83    | 500        | 5,52      |
|        |                  |           |         |            |           |





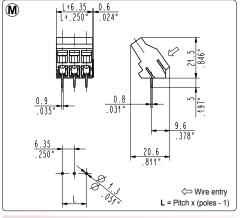


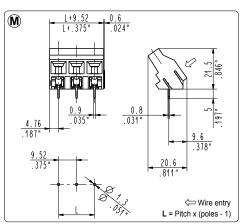
**MSP** 

| MSP_   | 09S              | 9         | 0° Mod  | dular, To  | p Entry    |
|--------|------------------|-----------|---------|------------|------------|
| 6.35 n | nm / .250" Pitch |           | Weig    | ght per po | le: 3.08 g |
| Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.*  | * W [kg]*  |
| 02     | MSP0209S         | 200       | 1,23    | 1000       | 6,16       |
| 03     | MSP0309S         | 125       | 1,16    | 750        | 6,93       |
| 04     | MSP0409S         | 100       | 1,23    | 500        | 6,16       |
| 05     | MSP0509S         | 75        | 1,16    | 500        | 7,70       |
|        |                  |           |         |            |            |

| y | MSP    | 09N              | 9         | 0° Mod  | lular, To  | p Entry   |
|---|--------|------------------|-----------|---------|------------|-----------|
| g | 9.52 r | nm / .375" Pitch |           | Weig    | ht per pol | e: 3.53 g |
| ŀ | Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.** | W [kg]*   |
|   | 02     | MSP0209N         | 150       | 1,06    | 750        | 5,30      |
|   | 03     | MSP0309N         | 100       | 1,06    | 500        | 5,30      |
|   |        |                  |           |         |            |           |

| MSP.   | 09U              | 9         | 0° Mod  | dular, Top  | <b>Entry</b> |
|--------|------------------|-----------|---------|-------------|--------------|
| 12,7 n | nm / .500" Pitch |           | Weig    | ght per pol | e: 3.68 g    |
| Poles  | STD Code         | Pcs/pack. | W [kg]* | Pcs/Ind.**  | W [kg]*      |
| 01     | MSP0109U         | 200       | 0,74    | 1000        | 3,68         |
| 02     | MSP0209U         | 125       | 0,92    | 750         | 5,52         |
| 03     | MSP0309U         | 75        | 0,83    | 500         | 5,52         |





| 1+6.35<br>L+.250" | 0.6<br>.024"<br>0.8<br>.031"<br>20.6<br>.811" |
|-------------------|---|
| 12.7              | ← Wire entry  L = Pitch x (poles - 1)         |
| MSP04U            | 35° Modular, Angled Entry                     |

|                       | $\overline{}$ |          |                         |         |            |         |  |
|-----------------------|---------------|----------|-------------------------|---------|------------|---------|--|
|                       | MSP           | 04S      | 35° N                   | /lodula | r, Angle   | d Entry |  |
| 6.35 mm / .250" Pitch |               |          | Weight per pole: 3.23 g |         |            |         |  |
|                       | Poles         | STD Code | Pcs/pack.               | W [kg]* | Pcs/Ind.** | W [kg]* |  |
|                       | 02            | MSP0204S | 200                     | 1,29    | 1000       | 6,46    |  |
|                       | 03            | MSP0304S | 125                     | 1,21    | 750        | 7,27    |  |
|                       |               |          |                         |         |            |         |  |

| MSP04N |                  | 35° Modular, Angled Entry |         |            |         |  |
|--------|------------------|---------------------------|---------|------------|---------|--|
| 9.52 r | mm / .375" Pitch | Weight per pole: 3.64 g   |         |            |         |  |
| Poles  | STD Code         | Pcs/pack.                 | W [kg]* | Pcs/Ind.** | W [kg]* |  |
| 02     | MSP0204N         | 125                       | 0,91    | 750        | 5,46    |  |
| 03     | MSP0304N         | 75                        | 0,82    | 500        | 5,46    |  |
|        |                  |                           |         |            |         |  |

|        |                  | ,                       |         |            |         |  |
|--------|------------------|-------------------------|---------|------------|---------|--|
| 12,7 r | mm / .500" Pitch | Weight per pole: 3.68 g |         |            |         |  |
| Poles  | STD Code         | Pcs/pack.               | W [kg]* | Pcs/Ind.** | W [kg]* |  |
| 01     | MSP0104U         | 200                     | 0,74    | 1000       | 3,68    |  |
| 02     | MSP0204U         | 125                     | 0,92    | 750        | 5,52    |  |
|        |                  |                         |         |            |         |  |

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