



**it's cool to be safe**  
explosion proof solution for the global market

# **Supermec**

explosion proof electrical equipment





GUA

CSD

GUB - A

GUBA - A

GUBA - S

EJB - A

EJB - S

ECS

UH - UP

CSE - A

CSE - P

CSE - S

WH - WP - WA

UVB - UVD

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explosion proof electrical equipment



## SUPER CONTROL

The equipment we introduce in this catalogue are designed to satisfy most of our clients' requirements to CONTROL explosion proof electrical equipment.

All equipment are manufactured using the latest technologies, both mechanical and electrical, using materials able to resist in most highly corrosive environment and to ensure a modern functionality solution and a long duration of investment.



## CSE P

The CSE P enclosures are normally used in the chemical and petrochemical plants, off-shore platforms, refineries and any other industry where hazardous atmospheres (gas and combustible dust) are potentially present.

The CSE P enclosures range has been designed to meet the main requirements of power distribution, monitoring and signaling, and other electrical functions inside the hazardous area of the plant



## Function

The CSE P enclosures are normally used for the following main applications:

- control stations
- emergency call units
- instrument housings
- circuit breakers
- switches and changeover switches
- lighting controls
- terminal boxes
- electrical housing
- battery container

The CSE-P A enclosures are available in different sizes so to create a large and modular range with different heights. The CSE-P enclosures, joined together through dedicated flanges, can become a large panel, maintaining the original IP protection.

Starting height 90 mm, the CSE-P series can be equipped with operators (pilot lights, push buttons, switches, etc.) on cover.

## Construction

The materials used to manufacture the CSE P series have been studied to grant the maximum protection against the highly corrosive agents present in these industries:

- body and cover of glass-reinforced polyester (GRP) black coloured to provide the maximum UV protection and loaded with carbon, to eliminate the risk of ignition sources through static induced sparking resistivity.
- for special purposes there are available, on request, other colours : grey, yellow, red and light blue
- antiloosening screws on cover of stainless steel AISI 316
- gasket on cover of silicone
- internal fixing screws of stainless steel

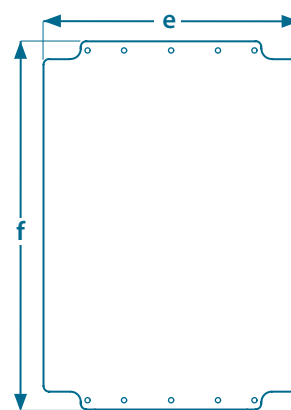
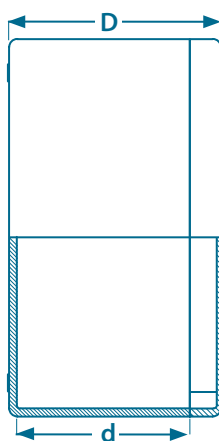
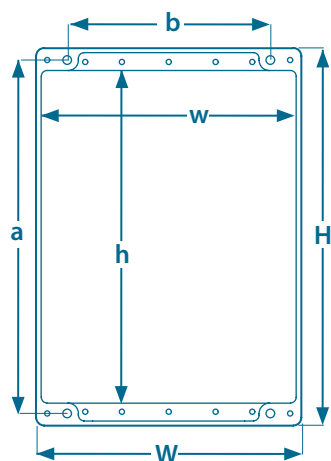
## Accessories

The CSE P enclosures can be completed with the following accessories:

- internal earth continuity plate of galvanized steel, copper or brass
- internal mounting plate of galvanized steel or stainless steel
- mounting brackets in stainless steel
- internal and external earth screws of stainless steel AISI 316
- external hinges of thermoplastic material

## Protection

|                            |                                                    |                  |                                      |                 |
|----------------------------|----------------------------------------------------|------------------|--------------------------------------|-----------------|
| certificate numbers:       | IECEx IMQ 15.0004X                                 | IMQ 14 ATEX 003X | INMETRO: CPEx 24.1638 X              | ECAS-Ex Licence |
| markings (terminal box)    | Ex II 2G Ex eb ia IIC T5/T6 Gb                     |                  | Ex II 2D Ex tb IIIC T135/100/85°C Db |                 |
| markings (control station) | Ex II 2G Ex db eb [ia/ib] mb op pr IIC T4/T5/T6 Gb |                  |                                      |                 |
| ambient temperature:       | -40°C / +60°C                                      |                  |                                      |                 |
| degree of protection :     | IP66                                               |                  |                                      |                 |
| conformity :               | Directive ATEX 2014/34/EU                          |                  |                                      |                 |
| standards :                | IEC-EN60079-0                                      | IEC-EN60079-1    | IEC-EN60079-7                        | IEC-EN60079-11  |
|                            | IEC-EN60079-18                                     | IEC-EN60079-28   | IEC-EN60079-31                       |                 |
| categories :               | zone 1                                             | zone 2           | zone 21                              | zone 22         |

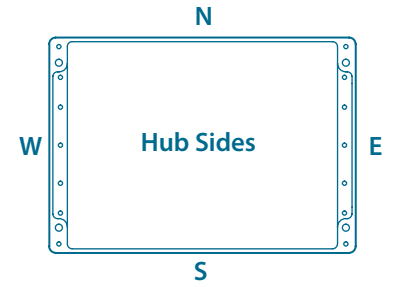
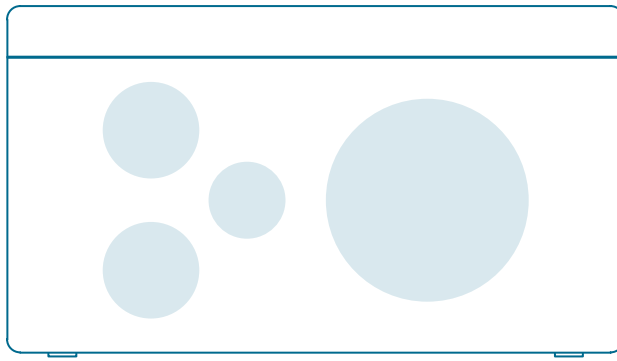


| code        | overall dimensions |     |     | internal dimensions |     |     | mounting plate |     | fixing dimensions |     |       | weight |
|-------------|--------------------|-----|-----|---------------------|-----|-----|----------------|-----|-------------------|-----|-------|--------|
|             | H                  | W   | D   | h                   | w   | d   | e              | f   | a                 | b   | screw | kg     |
| CSE 080705P | 80                 | 75  | 55  | 73                  | 68  | 47  | 68             | 64  | 68                | 45  | M4    | 0.2    |
| CSE 110705P | 110                | 75  | 55  | 103                 | 68  | 47  | 98             | 64  | 98                | 45  | M4    | 0.3    |
| CSE 160705P | 160                | 75  | 55  | 153                 | 68  | 47  | 148            | 64  | 148               | 45  | M4    | 0.4    |
| CSE 190705P | 190                | 75  | 55  | 183                 | 68  | 47  | 178            | 64  | 178               | 45  | M4    | 0.5    |
| CSE 080707P | 80                 | 75  | 75  | 73                  | 68  | 67  | 68             | 64  | 68                | 45  | M4    | 0.4    |
| CSE 121209P | 122                | 120 | 90  | 115                 | 113 | 79  | 108            | 106 | 106               | 82  | M6    | 0.8    |
| CSE 221209P | 220                | 120 | 90  | 211                 | 111 | 79  | 206            | 106 | 204               | 82  | M6    | 1.0    |
| CSE 161609P | 160                | 160 | 90  | 148                 | 148 | 79  | 144            | 140 | 140               | 110 | M6    | 1.2    |
| CSE 261609P | 260                | 160 | 90  | 248                 | 148 | 79  | 244            | 140 | 240               | 110 | M6    | 1.7    |
| CSE 361609P | 360                | 160 | 90  | 348                 | 148 | 79  | 344            | 140 | 340               | 110 | M6    | 2.2    |
| CSE 202512P | 200                | 250 | 120 | 188                 | 238 | 109 | 185            | 232 | 180               | 200 | M6    | 2.3    |
| CSE 252512P | 255                | 250 | 120 | 242                 | 238 | 109 | 240            | 232 | 235               | 200 | M6    | 2.7    |
| CSE 402512P | 400                | 250 | 120 | 388                 | 238 | 109 | 385            | 232 | 380               | 200 | M6    | 3.7    |
| CSE 404012P | 400                | 405 | 120 | 388                 | 393 | 109 | 383            | 386 | 380               | 355 | M6    | 5.4    |
| CSE 602512P | 600                | 250 | 120 | 588                 | 238 | 109 | 585            | 232 | 580               | 200 | M6    | 5.3    |
| CSE 252516P | 255                | 250 | 160 | 242                 | 238 | 149 | 240            | 232 | 235               | 200 | M6    | 3.2    |
| CSE 402516P | 400                | 250 | 160 | 388                 | 238 | 149 | 385            | 232 | 380               | 200 | M6    | 4.6    |
| CSE 404016P | 400                | 405 | 160 | 388                 | 393 | 149 | 383            | 386 | 380               | 355 | M6    | x.x    |
| CSE 602516P | 600                | 250 | 160 | 588                 | 238 | 149 | 585            | 232 | 580               | 200 | M6    | 6.4    |
| CSE 404020P | 400                | 405 | 201 | 388                 | 393 | 190 | 383            | 386 | 380               | 355 | M6    | 6.3    |

Note:

The CSE P enclosures have a degree of protection IP66 with the sole exception of model CSE 190705P provided of degree of protection IP65.





| code        | maximum number of hubs - sides N-S |      |      |     |        |        |     |        |     | maximum number of hubs - sides E-W |      |      |     |        |        |     |        |     |
|-------------|------------------------------------|------|------|-----|--------|--------|-----|--------|-----|------------------------------------|------|------|-----|--------|--------|-----|--------|-----|
|             | M16                                | M20  | M25  | M32 | M40    | M50    | M63 | M75    | M90 | M16                                | M20  | M25  | M32 | M40    | M50    | M63 | M75    | M90 |
|             | 3/8"                               | 1/2" | 3/4" | 1"  | 1" 1/4 | 1" 1/2 | 2"  | 2" 1/2 | 3"  | 3/8"                               | 1/2" | 3/4" | 1"  | 1" 1/4 | 1" 1/2 | 2"  | 2" 1/2 | 3"  |
| CSE 080705P | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   |
| CSE 110705P | 2                                  | 2    | -    | -   | -      | -      | -   | -      | -   | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   |
| CSE 160705P | 3                                  | 3    | -    | -   | -      | -      | -   | -      | -   | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   |
| CSE 190705P | 4                                  | 4    | -    | -   | -      | -      | -   | -      | -   | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   |
| CSE 080707P | 1                                  | 1    | 1    | -   | -      | -      | -   | -      | -   | 1                                  | 1    | -    | -   | -      | -      | -   | -      | -   |
| CSE 121209P | 3                                  | 2    | 2    | 1   | 1      | -      | -   | -      | -   | 2                                  | 1    | 1    | 1   | -      | -      | -   | -      | -   |
| CSE 221209P | 7                                  | 5    | 4    | 3   | 3      | -      | -   | -      | -   | 2                                  | 1    | 1    | 1   | -      | -      | -   | -      | -   |
| CSE 161609P | 6                                  | 4    | 2    | 2   | 1      | -      | -   | -      | -   | 3                                  | 2    | 1    | 1   | -      | -      | -   | -      | -   |
| CSE 261609P | 11                                 | 6    | 4    | 3   | 2      | -      | -   | -      | -   | 3                                  | 2    | 1    | 1   | -      | -      | -   | -      | -   |
| CSE 361609P | 16                                 | 11   | 8    | 5   | 4      | -      | -   | -      | -   | 3                                  | 2    | 1    | 1   | -      | -      | -   | -      | -   |
| CSE 202512P | 8                                  | 6    | 5    | 3   | 2      | 1      | 1   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 252512P | 12                                 | 10   | 7    | 4   | 2      | 2      | 2   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 402512P | 21                                 | 16   | 13   | 8   | 4      | 4      | 4   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 404012P | 21                                 | 16   | 13   | 8   | 4      | 4      | 4   | -      | -   | 18                                 | 16   | 11   | 7   | 4      | 4      | 3   | -      | -   |
| CSE 602512P | 28                                 | 24   | 24   | 14  | 6      | 6      | 6   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 252516P | 12                                 | 10   | 7    | 4   | 2      | 2      | 2   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 402516P | 21                                 | 16   | 13   | 8   | 4      | 4      | 4   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 404016P | 30                                 | 27   | 20   | 12  | 8      | 6      | 4   | 3      | 2   | 28                                 | 24   | 18   | 12  | 7      | 5      | 4   | 3      | 2   |
| CSE 602516P | 28                                 | 24   | 24   | 14  | 6      | 6      | 6   | -      | -   | 10                                 | 8    | 6    | 3   | 2      | 2      | 2   | -      | -   |
| CSE 404020P | 36                                 | 36   | 26   | 18  | 10     | 8      | 8   | 4      | 3   | 33                                 | 32   | 18   | 17  | 8      | 8      | 8   | 3      | 2   |



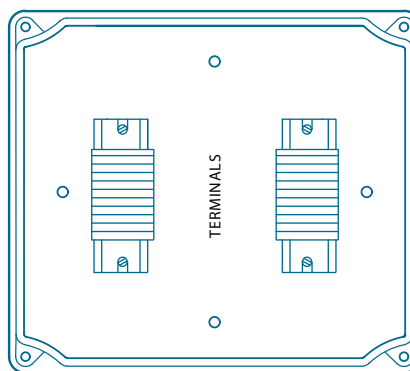


## Terminal Box

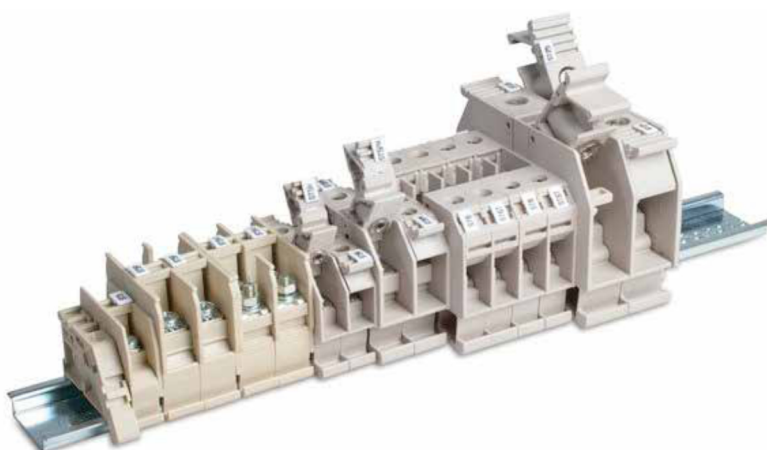
The installation of Ex terminals inside the enclosures can be done following different dispositions (straight, diagonal, on more rows) according to the limits of certification in terms of distance and heat dissipation.

Below terminals table has been based on brand/range of Ex terminals listed in the CSE P enclosure certificate.

The table is purely indicative and any configuration based on client requirements must be performed by Supermec.



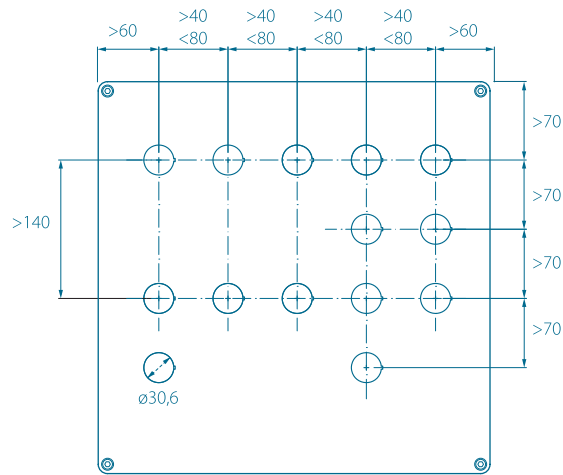
| code        | maximum number of terminals in mm <sup>2</sup> |     |     |     |    |    |    |    |    |
|-------------|------------------------------------------------|-----|-----|-----|----|----|----|----|----|
|             | 1.5                                            | 2.5 | 4   | 6   | 10 | 16 | 35 | 50 | 70 |
| CSE 080705P | 11                                             | 4   | -   | -   | -  | -  | -  | -  | -  |
| CSE 110705P | 19                                             | 11  | 9   | -   | -  | -  | -  | -  | -  |
| CSE 160705P | 33                                             | 20  | 17  | -   | -  | -  | -  | -  | -  |
| CSE 190705P | 42                                             | 26  | 21  | -   | -  | -  | -  | -  | -  |
| CSE 080707P | 11                                             | 4   | -   | -   | -  | -  | -  | -  | -  |
| CSE 121209P | 13                                             | 13  | 11  | 8   | 6  | -  | -  | -  | -  |
| CSE 221209P | 32                                             | 32  | 28  | 21  | 16 | -  | -  | -  | -  |
| CSE 161609P | 20                                             | 20  | 18  | 13  | 11 | 9  | -  | -  | -  |
| CSE 261609P | 40                                             | 40  | 34  | 26  | 21 | 17 | -  | -  | -  |
| CSE 361609P | 59                                             | 59  | 50  | 38  | 30 | 25 | -  | -  | -  |
| CSE 202512P | 76                                             | 78  | 64  | 50  | 20 | 16 | 12 | 10 | -  |
| CSE 252512P | 76                                             | 78  | 64  | 50  | 20 | 16 | 12 | 10 | -  |
| CSE 402512P | 132                                            | 136 | 114 | 86  | 34 | 29 | 21 | 18 | -  |
| CSE 404012P | 198                                            | 198 | 71  | 129 | 68 | 58 | 21 | 18 | -  |
| CSE 602512P | 212                                            | 212 | 180 | 136 | 34 | 45 | 34 | 28 | -  |
| CSE 252516P | 76                                             | 78  | 64  | 50  | 20 | 16 | 12 | 10 | 10 |
| CSE 402516P | 132                                            | 136 | 114 | 86  | 34 | 29 | 21 | 18 | 17 |
| CSE 404016P | 198                                            | 198 | 71  | 129 | 68 | 58 | 21 | 18 | 22 |
| CSE 602516P | 212                                            | 212 | 180 | 136 | 34 | 45 | 34 | 28 | 24 |
| CSE 404020P | 198                                            | 198 | 71  | 129 | 68 | 58 | 21 | 18 | 22 |



## Control Station

The CSE P enclosures can be equipped with all the Ex ed operators, switches and instruments present on our dedicated catalogue section.

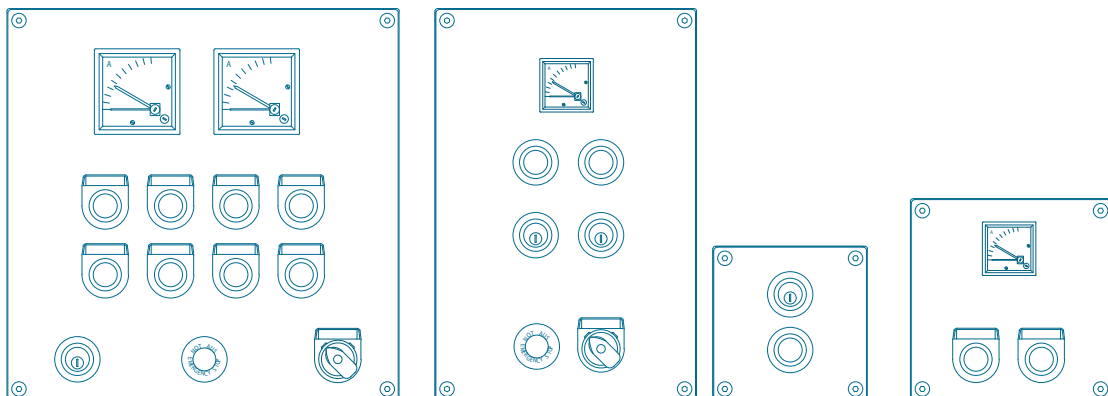
Supermec selected some different brands of these components to satisfy the market requirements in term of availability of spare parts.



*The installation of Ex operators and instruments inside the enclosures can be done according to the limits of certification in terms of distance and heat dissipation.*

*Any configuration based on client requirements must be performed by Supermec.*

## examples of possible installations





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