

5C EJB Custom-Built Control Panels

Globally Certified—Individually Customized

Cl. I, Div. 1 & 2, Groups B*, C, D UL and cUL approved
 Cl. I, Zones 1 & 2 Ex d IIB + H₂ T6
 Cl. II, Div. 1, Groups E, F, G Certified to ATEX Directive†
 Cl. II, Div. 2, Groups F, G NEMA 3, 7B*CD, 9EFG
 Cl. III IP66

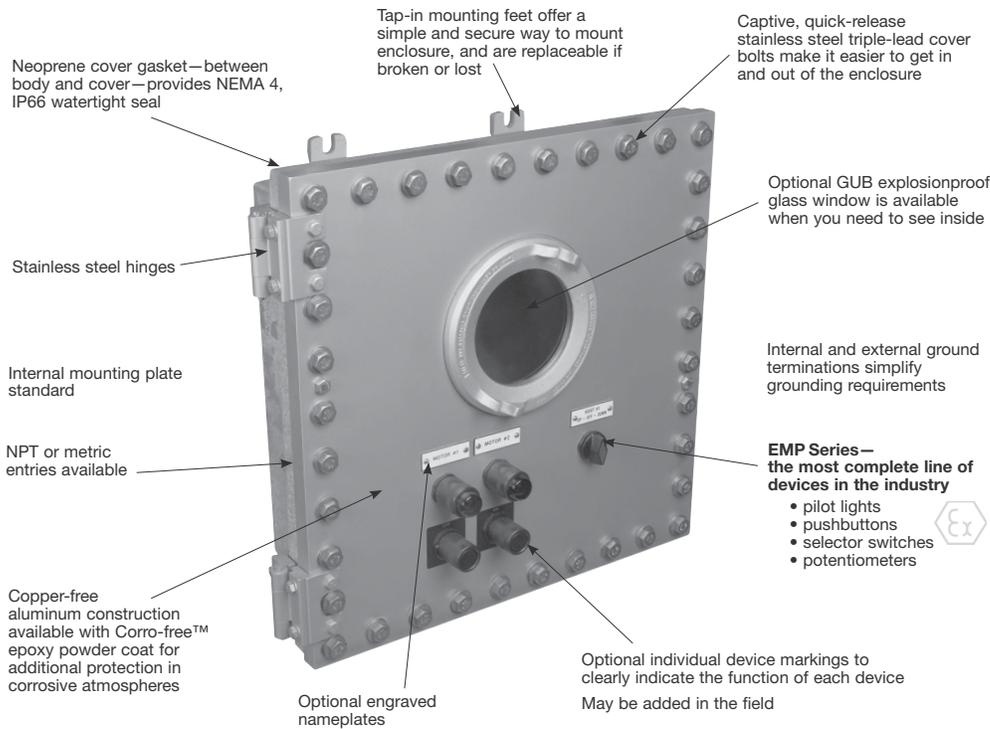
The following pages will assist you in choosing the combination of features suited to your needs and requirements. The easy, five-step process will take you through the specification of cover openings, specifying devices, drilled and tapped conduit openings, device locations, and legend and nameplate selection.

After filling out your separate order form for each panel, fax it to your local Eaton's Crouse-Hinds Distributor. Please consult the factory for alternatives not detailed in these pages, such as other conduit arrangements, terminal blocks, or circuit breaker operating handles.

Features:

- The foundation of the Custom-Built Control Panel is our tried and tested copper-free aluminum EJB enclosure. This corrosion resistant, heavy-duty enclosure features bolted construction, stainless steel hinges, and flexible tap-in mounting feet.

5C



Applications:

- Manufactured for hazardous environments, the EJB Custom-Built Control Panel is an explosionproof enclosure built to customer specific requirements
- Available in a variety of sizes with an unlimited combination of devices, windows, and markings, these panels are designed to maximize the efficiency of each unique process

Certifications and Compliances:

EJB Custom Control Panels

- NEC/CEC:
 - Class I, Divisions 1 & 2, Groups B*, C and D
 - Class I, Zones 1 & 2
 - Class II, Division 1, Groups E, F and G
 - Class II, Division 2, Groups F and G
 - Class III
- NEMA: 3, 4, 7B*CD, 9EFG
- cUL to CSA Standard C22.2 No. 30—C22.2 No. 25 Cl. II (E, F, G)
- Ex d IIB + H₂ T6
- UL Standard 1203
- IP66
- Certified to the ATEX Directive when ordered with -ATEX suffix.
- Custom Control Panel is component certified only. For assembly certification, please consult factory.

*Groups C and D only when ordered with GUB window.
 † Certified to the ATEX Directive when ordered with ATEX suffix.

ATEX Certifications

- EJB Enclosure with Conduit Entries & Device Holes
 - II 2 G Ex d IIB + H₂ Certificate #: ITS08ATEX15797U
- EMP Devices
 - II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15652U
- GUB0108 ATEX Window
 - II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15638U
- ECD Breather/Drain
 - II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15639U

Globally Certified—Individually Customized

Ordering and receiving Eaton’s Crouse-Hinds EJB Custom-Built Control Panels is now easier and faster than ever. Follow the steps below, fill out a separate order form for each panel, and fax it to your local Eaton’s Crouse-Hinds Distributor. It’s as simple as that!

Easy Five Step Ordering Process:

- 1 Specify cover openings and devices.
- 2 Specify conduit openings.
- 3 Determine device arrangement.
- 4 Specify device location.
- 5 Specify legend and nameplates.

Step 1

Specify the openings required for the cover of the enclosure.

Indicate in Section 1 of the order form the combination of devices, openings without devices, and windows required.

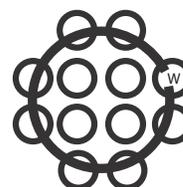
Total the number of device openings required based on the devices, openings and windows specified in Section 1.

Using Table 1, you can determine the smallest size enclosure required based upon the total number of devices/openings and the number of devices a window requires. (NOTE: The actual size of your custom panel enclosure may change based on the number and size of your entry requirements.)

TABLE 1 DEVICE AND WINDOW INFORMATION

| Total # of Device Openings Available | | Device Layout | | | EJB Enclosure Catalog Number |
|--------------------------------------|---|---------------|---|---|------------------------------|
| 9 | = | 3 | X | 3 | EJB100806 |
| 16 | = | 4 | X | 4 | EJB121204 |
| 16 | = | 4 | X | 4 | EJB121206 |
| 16 | = | 4 | X | 4 | EJB121208 |
| 36 | = | 6 | X | 6 | EJB161606 |
| 36 | = | 6 | X | 6 | EJB161608 |
| 24 | = | 6 | X | 4 | EJB181206 |
| 24 | = | 6 | X | 4 | EJB181208 |
| 36 | = | 9 | X | 4 | EJB241208 |
| 36 | = | 9 | X | 4 | EJB241210 |
| 54 | = | 9 | X | 6 | EJB241808 |
| 54 | = | 9 | X | 6 | EJB241810 |
| 81 | = | 9 | X | 9 | EJB242408 |
| 81 | = | 9 | X | 9 | EJB242410 |
| 52 | = | 13 | X | 4 | EJB361208 |
| 78 | = | 13 | X | 6 | EJB361808 |
| 78 | = | 13 | X | 6 | EJB361810 |
| 117 | = | 13 | X | 9 | EJB362408 |

Requires same area as 12 devices.
May be installed in all boxes.



GUB0108—Symbol W
4-3/4" dia. viewing area

SIZE REQUIREMENTS

| EJB Size | Max. No. Windows |
|------------------|------------------|
| 121204 to 181208 | 1 |
| 241208 to 362408 | 2 |

Globally Certified—Individually Customized

Step 2

Specify the number, size and location of conduit openings required on the sides, top and bottom of the enclosure body using the information in Tables 2, 3, and 4.

Refer to Table 2 to determine if the enclosure selected in Step 1 will accommodate the required conduit openings.
From Table 3, determine the symbol(s) that correspond with the required conduit openings.

Place these symbols in the desired positions using the conduit arrangement diagrams in Table 4.

Any combination of the four arrangement diagrams may be used per side and all positions on a side with openings must have a symbol. The side number (1, 2, 3 or 4) must precede the conduit opening(s) symbols for the respective side. When a side of the enclosure does not require any conduit openings, the side number is omitted from the catalog number.

Enter the complete catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted. Check boxes in Section 2 for options desired.

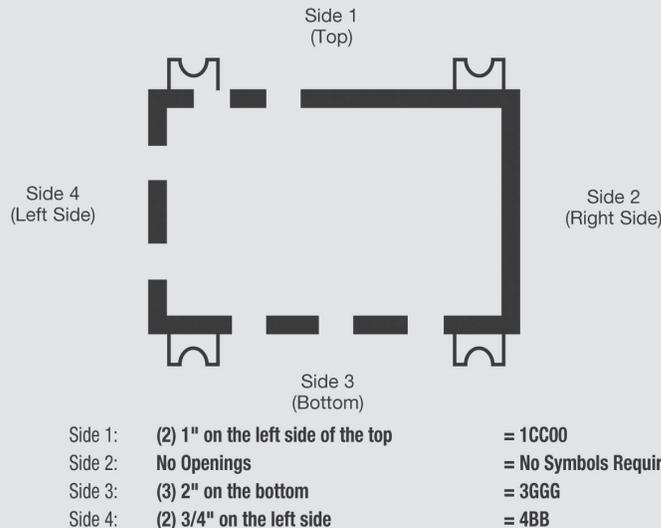
Example:

In Step 1, customer selects an EJB161606 based on the number of devices/openings specified (See Section 1 of sample order form). The following conduit openings are required: (2) 1" on the left side of the top; no openings on the right side; (3) 2" on the bottom; and (2) 3/4" on the left side.

Table 2 indicates the maximum size allowed for three conduit openings in an EJB161606 is 2-1/2". Therefore, an EJB161606 would be suitable.

Table 3 indicates a 3/4" opening is symbol B, a 1" opening is symbol C, a 2" opening is symbol G and no opening is a 0.

Using the conduit arrangement diagrams in Table 4, place the symbols for the desired openings in the appropriate positions. Remember, any combination of the four arrangement diagrams may be used and all positions on a side with openings must have a symbol even if no opening is required in a particular position.



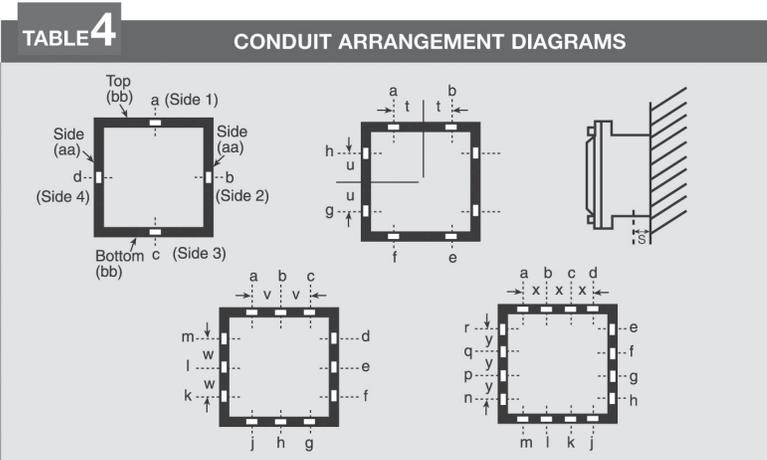
Complete catalog number is: **EJB161606- 1CC003GGG4BB**. Enter the completed catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted.

Globally Certified—Individually Customized

| TABLE 2 CONDUIT ARRANGEMENTS | | | | | | | | | | | | | | | |
|------------------------------|---|-------|-------|-------|------------|-------|-------|-------|--------------------|--------|---------|--------|--------|--------|--------|
| CAT # | Maximum Trade Size and Number of Openings | | | | | | | | Spacing Dimensions | | | | | | |
| | Top and Bottom (bb) | | | | Sides (aa) | | | | S | T | U | V | W | X | Y |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | |
| Drilled and Tapped Openings | | | | | | | | | | | | | | | |
| EJB100806 | 3-1/2 | 3 | 1-1/2 | 1-1/4 | 3-1/2 | 2-1/2 | 1-1/4 | 3/4 | 3-3/4 | 2-5/16 | 1-15/16 | 2-3/4 | 2-1/2 | 2-1/2 | 1-3/4 |
| EJB121204 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/4 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/4 | 3 | 2-1/4 | 2-1/4 | 3-5/8 | 3-5/8 | 3-1/16 | 3-1/16 |
| EJB121206 | 3-1/2 | 3-1/2 | 1-1/2 | 1-1/4 | 3-1/2 | 3-1/2 | 1-1/2 | 1-1/4 | 3-3/4 | 3 | 3 | 3-5/8 | 3-5/8 | 3-1/16 | 3-1/16 |
| EJB121208 | 5 | 3-1/2 | 1-1/2 | 1-1/4 | 5 | 3-1/2 | 1-1/2 | 1-1/4 | 4-3/4 | 3 | 3 | 3-5/8 | 3-5/8 | 3-1/16 | 3-1/16 |
| EJB161606 | 3-1/2 | 3-1/2 | 2-1/2 | 2 | 3-1/2 | 3-1/2 | 2-1/2 | 2 | 3-3/4 | 3 | 3 | 4-5/8 | 4-5/8 | 4-3/16 | 4-3/16 |
| EJB161608 | 5 | 5 | 3 | 2 | 5 | 5 | 3 | 2 | 4-3/4 | 3-1/4 | 3-1/4 | 6 | 4-5/8 | 4-3/16 | 4-3/16 |
| EJB181206 | 3-1/2 | 3-1/2 | 3-1/2 | 2-1/2 | 3-1/2 | 3-1/2 | 1-1/2 | 1-1/4 | 3-3/4 | 3 | 3 | 6 | 3-5/8 | 4-5/8 | 3-1/16 |
| EJB181208 | 5 | 5 | 3-1/2 | 2-1/2 | 5 | 3-1/2 | 1-1/2 | 1-1/4 | 4-3/4 | 4-3/16 | 3 | 6 | 3-5/8 | 4-5/8 | 3-1/16 |
| EJB241208 | 5 | 5 | 5 | 3-1/2 | 5 | 3-1/2 | 1-1/2 | 1-1/4 | 5-1/8 | 4-3/16 | 3 | 8-7/16 | 3-5/8 | 6 | 3-1/16 |
| EJB241210 | 6 | 6 | 5 | 3-1/2 | 6 | 3-1/2 | 1-1/2 | 1-1/4 | 6-1/8 | 4-3/4 | 3 | 8-7/16 | 3-5/8 | 6 | 3-1/16 |
| EJB241808 | 5 | 5 | 5 | 3-1/2 | 5 | 5 | 3-1/2 | 2-1/2 | 5-1/4 | 4-3/16 | 4-3/16 | 8-7/16 | 6 | 6 | 4-5/8 |
| EJB241810 | 6 | 6 | 5 | 3-1/2 | 6 | 6 | 3-1/2 | 2-1/2 | 6-1/4 | 4-3/4 | 4-3/4 | 8-7/16 | 6 | 6 | 4-5/8 |
| EJB242408 | 5 | 5 | 5 | 3-1/2 | 5 | 5 | 5 | 3-1/2 | 5-3/8 | 4-3/16 | 4-3/16 | 8-7/16 | 8-7/16 | 6 | 6 |
| EJB242410 | 6 | 6 | 5 | 3-1/2 | 6 | 6 | 5 | 3-1/2 | 6-3/8 | 4-3/4 | 4-3/4 | 8-7/16 | 8-7/16 | 6 | 6 |
| EJB361208 | 5 | 5 | 5 | 5 | 5 | 3-1/2 | 1-1/2 | 1-1/4 | 4-3/4 | 4-7/16 | 3 | 8-7/16 | 3-5/8 | 8-7/16 | 3-1/16 |
| EJB361808 | 5 | 5 | 5 | 5 | 5 | 5 | 3-1/2 | 2-1/2 | 5-1/2 | 4-7/16 | 4-7/16 | 8-7/16 | 6 | 8-7/16 | 4-5/8 |
| EJB361810 | 6 | 6 | 5 | 5 | 6 | 6 | 3-1/2 | 2-1/2 | 6-1/2 | 4-3/4 | 4-3/4 | 8-7/16 | 6 | 8-7/16 | 4-5/8 |
| EJB362408 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3-1/2 | 6 | 4-3/16 | 4-3/16 | 8-7/16 | 8-7/16 | 8-7/16 | 6 |

5C

| TABLE 3 SYMBOLS FOR OPENINGS | | | |
|------------------------------|------------------------------|-----------------|------------------------------|
| NPT Conduit Size | Drilled & Tapped Hole Symbol | Metric Openings | Drilled & Tapped Hole Symbol |
| 1/2 | A | M16 | AM |
| 3/4 | B | M20 | BM |
| 1 | C | M25 | CM |
| 1-1/4 | E | M32 | EM |
| 1-1/2 | F | M40 | FM |
| 2 | G | M50 | GM |
| 2-1/2 | H | M63 | HM |
| 3 | J | | |
| 3-1/2 | K | | |
| 4 | L | | |
| 5 | M | | |
| 6 | N | | |



Step 3

Based upon the EJB selected, use Section 3 of the order form and outline the maximum number of columns and rows available (from Table 1) beginning in the upper left corner. Fill in the length of each side in the space provided.

Note that the left side will be hinged unless otherwise specified in Section 2. In our example, an EJB161606 was selected and according to Table 1, a total of 36 device spaces are available (6 columns and 6 rows). See sample order form.

Step 4

Place the appropriate letter symbol from Section 1 of the order form in the position you desire the devices or openings to be located. If a window is required, outline the position and number of spaces the window will occupy and place the symbol of the window (w) in the center.

Note that 2 windows per enclosure can be used. If more windows are required contact factory. (See appropriate window information in the sample order form)

Globally Certified—Individually Customized

Step 5

Indicate the desired device marking (DSL legend plate) or engraved plate for each device or window in Section 4 of the order form.

Engraved plates will be located above the device or window and white letters on a black background. If an engraved plate is desired, fill in desired wording on engraved plate (up to 2 lines) on Section 4 of order form. If a device marking is required on EMP device, insert the DSL catalog number from those listed below (Table 5) on Section 4 of order form under column labeled "Device Marking." Be sure to specify the row and column location of the EMP device being marked. See sample order form.

That's it. *It's that simple.* Now fax the order form to your local Eaton's Crouse-Hinds Distributor.

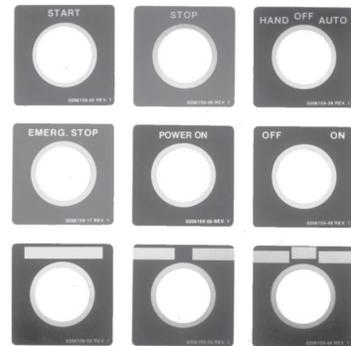
5C

TABLE 5

LEGEND PLATE SELECTOR CHART

Use the charts below to select the appropriate legend plate(s) for your application. Markings shown in **bold print** are etched; all others are stamped.

| Single Function Legend Plates | | Double Function Legend Plates | | Triple Function Legend Plates | |
|-------------------------------|--------|-------------------------------|--------|--|--------------------|
| Marking | Cat #. | Marking | Cat #. | Marking | Cat #. |
| Automatic | DSL16 | Blank with 2 fields | DSL03 | Auto-Off-Hand | DSL49 |
| Blank | DSL01 | For-Rev | DSL30 | Blank with 3 fields | DSL04 |
| Blank with single field | DSL02 | Hand-Auto | DSL29 | Fast-Off-Slow | DSL41 |
| Close | DSL21 | In-Out | DSL35 | For-Off-Rev | DSL40 |
| Down | DSL23 | Off-On | DSL48 | Hand-Off-Auto | DSL39 |
| Emerg. Stop | DSL17 | Open-Close | DSL32 | Run-Off-Jog | DSL38 |
| Fast | DSL46 | Raise-Lower | DSL36 | Open-Off-Close | DSL43 |
| Forward | DSL18 | Run-Jog | DSL28 | Raise-Off-Lower | DSL87 |
| Hand | DSL15 | Safe-Run | DSL86 | Slow-Off-Fast | DSL88 |
| In | DSL24 | Start-Stop | DSL37 | Up-Off-Down | DSL44 |
| Jog | DSL10 | Slow-Fast | DSL65 | 1-Off-2 | DSL42 |
| Lower | DSL27 | Up-Down | DSL33 | | |
| On | DSL07 | | | Note: Background color for all legend plates is black with the following exceptions: | |
| Off | DSL08 | | | | |
| Open | DSL20 | | | Marking | Plate Color |
| Out | DSL25 | | | Start | Green |
| Power On | DSL14 | | | Stop | Red |
| Raise | DSL26 | | | Emerg. Stop | Red |
| Reset | DSL12 | | | | |
| Reverse | DSL19 | | | | |
| Run | DSL09 | | | | |
| Safe | DSL85 | | | | |
| Slow | DSL47 | | | | |
| Start | DSL05 | | | | |
| Stop | DSL06 | | | | |
| Test | DSL13 | | | | |
| Trip | DSL11 | | | | |
| Up | DSL22 | | | | |



Globally Certified—Individually Customized

Please photocopy and fax all pages of order form (Sections 1-4) to your local Eaton's Crouse-Hinds Distributor.

Section 1: EMP Style Operators—UL, cULus and ATEX

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

| Pilot Lights | | | |
|--------------------|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP009-J1 (Red) | | A | _____ |
| EMP009-J1-LED | | A1 | _____ |
| EMP0090-J1 | | A2 | _____ |
| EMP0098-J1 | | A4 | _____ |
| EMP009-J3 (Green) | | B | _____ |
| EMP009-J3-LED | | B1 | _____ |
| EMP0090-J3 | | B2 | _____ |
| EMP0098-J3 | | B4 | _____ |
| EMP009-J6 (Amber) | | C | _____ |
| EMP009-J6-LED | | C1 | _____ |
| EMP0090-J6 | | C2 | _____ |
| EMP0098-J6 | | C4 | _____ |
| EMP009-J10 (Clear) | | E | _____ |
| EMP0090-J10 | | E2 | _____ |
| EMP0098-J10 | | E4 | _____ |
| EMP009-J11 (Blue) | | F | _____ |
| EMP0090-J11 | F2 | _____ | |
| EMP0098-J11 | F4 | _____ | |

| Pushbuttons—Single Pushbutton | | | |
|-------------------------------|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP019 (Black) | | G | _____ |
| EMP019 (Red) | | H | _____ |
| EMP019 (Green) | | J | _____ |
| EMP098 (Red) | | K | _____ |

| Pushbuttons—Double Pushbutton, Single Operator | | | |
|--|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP029 (Black) | | L | _____ |
| EMP029 (Red) | | M | _____ |
| EMP029 (Green) | | N | _____ |

| Pushbuttons—Double Pushbutton, Double Operator | | | |
|--|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP039 | | P | _____ |

| Selector Switches – Two position | | | |
|----------------------------------|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP049 | | Q | _____ |
| EMP059 | | R | _____ |

| Selector Switches – Three position | | | |
|------------------------------------|---------|--------|----------|
| | Diagram | Symbol | Quantity |
| EMP069 | | S | _____ |
| EMP069-S634 | | S4 | _____ |
| EMP069-S635 | | S5 | _____ |
| EMP079 | | T | _____ |
| EMP079-S634 | | T4 | _____ |
| EMP079-S635 | | T5 | _____ |
| EMP089 | | U | _____ |
| EMP089-S634 | | U4 | _____ |
| EMP089-S635 | | U5 | _____ |

| Selector Switches – Keyed Selector Switches | | | |
|---|---------|--------|-------|
| | Diagram | Symbol | Qty |
| EMP0491 | | Q6 | _____ |
| EMP0492 | | Q7 | _____ |
| EMP0493 | | Q8 | _____ |
| EMP0591 | | R6 | _____ |
| EMP0592 | | R7 | _____ |
| EMP0593 | | R8 | _____ |
| EMP0691 | | S6 | _____ |
| EMP0692 | | S7 | _____ |
| EMP0693 | | S8 | _____ |
| EMP0694 | | S9 | _____ |
| EMP0791 | | T6 | _____ |
| EMP0792 | | T7 | _____ |
| EMP0793 | | T8 | _____ |
| EMP0794 | | T9 | _____ |
| EMP0891 | | U6 | _____ |
| EMP0892 | | U7 | _____ |
| EMP0893 | | U8 | _____ |
| EMP0894 | | U9 | _____ |

Total Number of all Devices on this page _____

5C

Globally Certified—Individually Customized

Section 1: EMP Style Operators Continued

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

| Openings Without Devices (For Future Expansion) | |
|---|--------------------|
| | Symbol Quantity |
| 3/4" - 14 NPSM Opening (plugged) | V _____ |

| Windows | | | |
|---------|--------|----------|---------------|
| | Symbol | Quantity | # of Openings |
| GUB0108 | W | _____ | _____ |

Total Number of all Device
Openings from previous page _____

Total Number of all Devices /
Openings from Section 1 _____

5C

Globally Certified—Individually Customized

Section 2

Completed Catalog Number:

Specify the complete catalog number including conduit designations.

EJB _____

All Eaton's Crouse-Hinds Custom-Built Control Panels are provided with a mounting plate and hinges. Hinges are on left side of enclosure. If you desire hinges on one of the other sides, circle choice here: TOP RIGHT BOTTOM

| | |
|--|---------------|
| Distributor: | Contact: |
| Customer: | Phone Number: |
| EATON'S CROUSE-HINDS FACTORY USE ONLY | |
| Catalog Number Entered: | |
| Reference #: | B# |

OPTIONS

For any of the following options, check here:

- ATEX Certified (ATEX)
- Breather and Drain (S756V)
- Epoxy finish, external (S752)
- Epoxy finish, internal and external (S753)

Section 3—Exterior Front View

Location of Devices and Windows in Cover:

Outline the cover space available, beginning in the upper left corner of the grid, based upon the EJB selected. See Table 1 for device layout.

| | | | | | | | | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | size | | Top (column) | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| A | <input type="checkbox"/> |
| B | <input type="checkbox"/> |
| C | <input type="checkbox"/> |
| | size | | | | | | | | | | | | |
| D | <input type="checkbox"/> |
| E | <input type="checkbox"/> |
| F | <input type="checkbox"/> |
| G | <input type="checkbox"/> |
| H | <input type="checkbox"/> |
| I | <input type="checkbox"/> |
| J | <input type="checkbox"/> |
| K | <input type="checkbox"/> |
| L | <input type="checkbox"/> |
| M | <input type="checkbox"/> |
| | | | Bottom | | | | | | | | | | |
| Note: All device openings are spaced 2.62" center to center. | | | | | | | | | | | | | |

Section 4

Device Markings:

Indicate by row and column position markings/legends for each device.

Engraved Plate:

Specify markings for each nameplate based upon the following:

| | Maximum Number of Characters/Line | | | |
|----------------------|-----------------------------------|-------|------|------|
| Marking Size | 1/8" | 3/16" | 1/4" | 1/2" |
| Number of Characters | 36 | 24 | 18 | 9 |

Specify

| Row | Column | Device Marking (DSL) or Engraved Plate Line 1 | Engraved Plate Line 2 | Marking Size |
|-----|--------|---|-----------------------|--------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

