Transmission Station Labelling Specification

XDS-GFS-38-001

June 2025

EirGrid

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Rev	Date	Description	Originators	Checkers	Approver
R0	11th June 2025	Major update based on lessons learned on labelling. -Supersedes XDN-LAB-STND-001. -Supersedes labelling content in XDN-GFS-25-001 rev 4.	Niall McMahon Kalaichezhiyan Pandian	Daniele Giustini EirGrid – System integrity ESB Due Dilligence	Neil Cowap

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1 Introduction

1.1 Retrospective Application of this Standard

This specification approved in June 2025 represents a significant improvement on the previous specification and it removes ambiguity. EirGrid will therefore retrospectively apply this specification to all active projects. Derogations to the use of this specification will be accepted if for example the labels have already been printed or installed on site.

1.2 Scope

This specification describes requirements for physical safety signs and labels to be installed in 110 kV, 220 kV and 400 kV transmission substations owned by ESB and operated by EirGrid.

- It is based on and supersedes drawing XDN-LAB-STND-001 Rev 3 ("110/220/400 kV Station Signage").
- It also supersedes GIS labelling requirements specified in XDS-GFS-25-001-R4 ("110/220/400 kV Gas Insulated Switchgear (GIS) Connected to the Transmission System".

This specification shall be printed in colour.

The specification includes requirements for

- Safety Signs
- Primary equipment labelling
- Secondary equipment labelling
- Building and Compound labelling
- Building and Compound labelling

1.3 Safety Signs

Safety signs are required to be provided in accordance with Irish Regulations.

This document includes requirements for safety signs to be provided in certain locations, based on current health and safety and ESB operations practice.

The Customer is responsible to ensure that all statutory requirements are met for safety signs, and should refer to the following for further information:

- Safety Health and Welfare at Work (General Application) Regulations 2007 and subsequent amendments
- Latest revision of Building Regulations
- ISO 3864 series - Design Principles for safety signs

Requirements for fire or emergency exit signage are excluded from this specification.

1.4 Primary Equipment Labelling

This document specifies requirements for the labelling of the following types of equipment:

- Line Support Gantries inside substations
- Circuit Breakers
- Disconnects
- Earthing switches
- Current Transformers
- Voltage Transformers
- Surge Arresters
- Cable Sealing Ends

- Busbars
- Power Transformers

Where other types of primary equipment are included on a given project, the Customer should request confirmation of the required labelling from EirGrid. As a guiding principle, however, the labelling shall be based on the EirGrid SLD for the project and the principles set out in this document.

The document also specifies requirements for the labelling of the following Customer switchgear in Customer substations or compounds:

- The Customer's first disconnect. This is the Customer's normal point of disconnection or point of isolation from the Transmission system.
- Customer Earthing switches between the last item of ESB switchgear and the Customer's first disconnect.
- The First Customer Circuit Breaker.

The following items of primary equipment are excluded:

- Support insulators
- Customer equipment beyond what is listed above.

Labelling and other forms of markings including rating plates, nameplates, stampings etc. provided by equipment manufacturers are not included in the scope of this document. Refer to the appropriate EirGrid equipment standards for further information.

1.5 Secondary Equipment Labelling

This document describes requirements for the labelling of secondary equipment for operational and maintenance purposes including the following:

- Mechanism boxes associated with HV equipment
- Local Control Cabinets (LCC) associated with HV equipment
- Link Boxes associated with HV Cables
- Control and Protection Cabinets[1]
- Substation DC Distribution Boards
- Substation AC Distribution Board
- Substation batteries, battery chargers and associated cabinets etc
- Interface Kiosk, Customer Interface cabinet and ESB Interface Cabinet associated with the interface to Customer
- Metering Interface Kiosk
- Earth bars within the substation control building

Labelling of the following items is **excluded** from the scope:

- Telecoms cabinets
- Event recorders
- Metering cabinets
- Building Services panels – e.g. fire alarm, intruder alarm, sub distribution boards etc.
- Electrical components contained in or supported by enclosures[2] e.g. switches, pushbuttons, lamps, MCBs, etc. Refer to the appropriate EirGrid equipment specifications for further requirements.
- LV cabling[3]

[1] Control and Protection Cabinets may have more than one label. The labelling described in this document is mandatory. Any additional manufacturer provided labelling is outside the scope of this document.
[2] See section 2 Terminology
3 Some basic requirements including minimum text size for cable labels are specified in section 7.1, but this document does not define the text to be included in LV cable labels.

Labelling of other forms of markings including rating plates, nameplates, stampings etc provided by equipment manufacturers are not included in the scope of this document. Refer to the appropriate EirGrid equipment standards for further information.

1.6 Building and Compound Labelling

This document describes requirements for the labelling of the following items:

- Fences
- Gates
- Substation Building Doors

The following external items are excluded:

- Items mounted on overhead line structures
- External lighting poles
- External boxes for lighting, security cameras etc.
- Road Traffic Signs

2 Terminology

AIS#1, AIS#2, AIS#3	These are standard text heights for AIS equipment. Refer to section 9.1
Enclosure	In this document the word "Enclosure" refers to any closed form of housing which contains or supports low voltage equipment including the following: • Distribution Boards • Protection and Control Cabinets, • Local Control Cabinet, • Mechanism Boxes etc.
"Front" and "back" of AIS support Structure	For the purposes of this document the "front" and "back" of the support steelwork can be defined as the sides which allow an observer to see all three phases of the equipment.
GIS#1, GIS#2, GIS#3	These are standard text heights for GIS equipment. Refer to section 11.1
Integrated mechanism box	A mechanism box which is supported on the same support steelwork as the primary equipment.
LCC	Local Control Cabinet
S#1, S#2	These are standard text heights for secondary equipment. Refer to section 14.1

3 General Labelling Principles

3.1 Function and Consistency

Labelling identifies the physical assets in each substation for operation and maintenance purposes.

Labelling should be as consistent as possible. Additional information and deviations from the prescribed text and format of each label should be avoided as far as possible and agreed with EirGrid.

3.2 Visibility to Operators

3.2.1 General

Labelling and signs should be located at a convenient height for reading.

Labelling should be located so that it remains visible to an operator during operation.

3.2.2 Labelling of Enclosures

All enclosures shall be labelled on the outside and inside of each door, or, alternatively, on the outside and inside of the access hatch, such that an operator always has visibility of the enclosure label.

An internal label is not required where an externally mounted label remains visible at all times to a person working inside the enclosure, e.g. where the externally mounted label is above the door.

An internally mounted label which is visible through a glass door may be acceptable as a combined external and internal label, but must have the minimum size specified for external labels.

More than one internal label may be required to ensure that the operator always has visibility of the enclosure label e.g. in the case of cabinets with swing frame doors.

3.3 Project Planning

3.3.1 General

The Customer shall submit a project specific labelling schedule to EirGrid for review and approval. This document shall detail all labelling proposed to be installed onsite, including Customer Switchgear in Customer bays. Labelling for Customer Switchgear is described further in 17.

Situations may arise where the specified text height cannot be accommodated due to lack of space. In such cases the Customer shall advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.

The Customer shall submit a drawing of their mimic design to EirGrid for review and approval. Refer to chapter 16 for further information.

All documentation for EirGrid review and approval shall be submitted as part of the design review process and well in advance of labelling and mimic manufacture, considering as a minimum the agreed project review response times.

3.3.2 GIS Projects

Warning Signs associated with the hazards of access and operation of GIS may vary depending on the equipment design, and shall be agreed on a project-by-project basis. See section 11.3.

It is possible that GIS manufacturers update the naming of CTs and VTs compared with the EirGrid SLD. This should be considered and agreed with EirGrid as part of the agreed final project SLD, and carried forward into the associated labels.

Where possible, GIS labelling should be included in drawings to facilitate early review.

An on-site labelling review is recommended once GIS switchgear and walkways have been assembled.

4 Physical Characteristics and Fixing of Labels

- Labels shall be rectangular or square

- Labels shall use black lettering on a white background unless otherwise stated. This colour coding indicates general information.
- Labels shall be made of a minimum of 3 mm thick laminated plastic.
- A general durability of 25 years is required of all labels. They shall not fade with sunlight (UV resistant), contact with oil or other substances used for station operation activities.
- Labels for GIS equipment shall be made of 5 mm thick laminated plastic or aluminium.

  Where indicated for certain GIS equipment stickers shall be used.
- Where plastic labels are used, the preferred means of fixing is a self-adhesive plastic backing, forming part of the label itself. The preferred means of fixing aluminium labels to GIS is bolting, where suitable bolt holes have been provided by the GIS manufacturer. If these methods are not feasible, the approved adhesive type is Loctite 5065-EN.

5 Label Background and Text Colour

Colour of Text and Background	Use	Examples
Black Text on White Background	General Information. This shall be used by default unless some other colour coding is indicted.	**FINGLAS** **220 kV SUBSTATION** **MAIN ENTRANCE**
White Text on Red Background	Warning	

Note: Labels for position indication of AIS circuit breakers in section 9.3.2 also require a coloured background.

6 Text Requirements

6.1 General Requirements

- All labels shall use CAPITAL LETTERS, with the exception of the units kV, where the prefix is lower case by convention.
- The font type shall be 'ARIAL'[4]
- Label borders shall either be a minimum of 10 mm outside the text on all sides or 10% of the label side size, whichever is the greater dimension.
- Hyphens or forward slashes shall not be included unless they form part of the item that is being labelled.
    - In a Teed line a forward slash forms part of the Bay Name e.g. DALLOW/SHANNONBRIDGE
    - The following equipment code is the correct equipment code for the Earthing switch on the A1 busbar associated with sectionaliser SA1-2

      H0A SA1-2 DEA1
- The text of each label shall be arranged line by line as specified.

  If no line information is specified, all elements of the label can be placed on a single line. If this does not allow the text to fit as required, the Customer can propose an alternative arrangement.
- The text shall be centred on each line of the label.
- Units and their corresponding numbers shall be separated by a space e.g. 220 kV, 24 V etc. (i.e. not 220kV, 24V etc.).
- If there are two feeders to the same substation then there shall be a space between the name of the remote station and the additional single digit number which identifies the number of the feeder e.g. CORCAGH 1, CORCAGH 2.
- Multiple instances of the same type of equipment in a single bay do not require a space between the equipment code and the number e.g. DEM1, DEM2.

6.2 Standard Labelling Codes and Components

The text to be included in labels is specified using a combination of:

- Fixed text (which shall be exactly as specified)
- Variable text, which shall be changed depending on the location and type of equipment. Variable text is specified by a series of “Codes”, which are indicated in brackets.

Table 1 provides a list of codes that are used when specifying station labels, with examples of corresponding text appearing on labels.

Table 1 Description and Examples of Label Codes

[4] In this document all text which appears on a label is shown in SIZE 11 ARIAL FONT.

<table>
<tr><th>Code appearing in label Specification</th><th>Description</th><th>Examples</th></tr>
<tr><td>[Station Name]</td><td>The name of the substation that appears on the SLD
(not including voltage or the word substation)</td><td>MAYNOOTH</td></tr>
<tr><td>[Bay Name]</td><td>The name of the bay on the SLD.</td><td>Line Bay Example:
MAYNOOTH (only one line to Maynooth Station)
MAYNOOTH 1, MAYNOOTH 2 (two lines)
Transformer Bay Example:T131 etc.
Coupler Bay example:
COUPLER K1, COUPLER K9 etc.
Sectionaliser Bay Example:
SECTIONALISER SA1-2</td></tr>
<tr><td>[Bay Code]</td><td>The location of the bay on the SLD
H is used for 110 kV Bays
F is used for 220 kV Bays
E is used for 400 kV bays</td><td>Coupler Bay examples:H0A, H0B etc.
Examples of other bays: H1, H2 etc. (no leading zero)
There is no space between the letter (H, F, E) and the bay number.</td></tr>
<tr><td>[SLD Equip. Name]</td><td>The name of each item of switchgear on an EirGrid SLD is made up of two components, typically separated by brackets.
[IEC Code][SLD Equip. Code]
The SLD Equip. code is defined as what appears on the SLD, with the IEC Code removed.[5]</td><td>
<table>
<tr><th>On EirGrid SLD</th><th>IEC Code</th><th>SLD Equip. Code</th><th>Equip. Code</th></tr>
<tr><td>QA1(CB)</td><td>QA1</td><td>CB</td><td>CB</td></tr>
<tr><td>QB1(DA)</td><td>QB1</td><td>DA</td><td>DA</td></tr>
<tr><td>QB9(CASHLA DL)</td><td>QB9</td><td>CASHLA DL</td><td>DL</td></tr>
<tr><td>QC1(CASHLA DE)</td><td>QC1</td><td>CASHLA DE</td><td>DE</td></tr>
</table>
</td></tr>
</table>

[5] This code is used in Mimics and for certain items of Customer Switchgear. See also 16 and 17.

Code appearing in label Specification	Description	Examples
[IEC Equip. Code]	See also [SLD Equip. Name] IEC equipment codes appear on EirGrid Single Line diagrams but do not appear on physical labels, or on mimics. [6]	See [SLD Equip. Name]
[SLD Equip Code]	See [SLD Equip. Name]	See [SLD Equip. Name]
[Equip. Code]	The item of HV equipment within a bay. For most items this corresponds with the "ESB designator" on EirGrid SLDs. Exceptions include current transformers and voltage transformers	Bay Circuit Breaker: CB Coupler Circuit Breaker: K1 CB, K2 CB Sectionaliser Circuit Breaker: SA1-2 CB etc. Busbar Disconnect: DA, DB Line Disconnect: DL Transformer Disconnects: DT1, DT2 Coupler Disconnects: K1 DA, K1 DB etc. Sectionaliser Disconnects: SA1-2 SA1, SB1-2 SB1 Bay Earthing switches: DEM1, DEM2 Coupler Earthing switches: K1 DEM1, K1 DEM2 etc. Sectionaliser Earthing switches: DEM1, DEM2 Line Earthing Switch: DE Transformer Bay Earthing Switch: DEM4 Busbar Earthing Switch: DEA1, DEB2 etc. Current Transformers: BC1, BC2 (GIS only) Voltage Transformers: BA1, BA2 (GIS only) Voltage Transformer Internal Isolating Switch: QB61, QB62 etc. (GIS only)[7]
[Phase]	The phase of the equipment	R, S, T

[6] QA is used for circuit breakers, QB for disconnects and QC for earthing switches; each followed by one or two digits e.g. QA1, QB1, QB2, QC9 etc.
Labelling for GIS voltage transformer internal isolating switches is a special case. Traditionally this equipment has not been included on EirGrid SLDs and does not appear on station mimic diagrams. QB6 is applied as the Equipment code, and therefore appears in the associated equipment identification labels.
[7] QB61 and QB62 are the equipment codes for the voltage transformer internal isolating switches associated with the first and second VT, respectively, of a GIS bay.

Code appearing in label Specification	Description	Examples
[Busbar Section]	The section of busbar	A1, A2, B1, B2 etc.
[Voltage]	The voltage of the equipment. This includes the appropriate unit.	HV equipment: 110 kV, 220 kV, 400 kV Batteries and related equipment: 220 V, 48 V, 24 V Note that there is a space between the number and the unit.
[Number]	The number associated with the equipment (applies when there is more than one item of a particular type e.g. battery chargers etc.)	1, 2 etc
[D Code]	Indicates the location of DC and AC equipment within the Control Room	D1, D2 etc. (refer to 17.3)
[M Code]	Indicates the location of Protection and Control Equipment within the Control Room	M1, M2 etc. (refer to 17.3)
[Enclosure Description Code]	A description of the function of each protection and control cabinet	Example Enclosure Descriptions: MOSAIC CABINET BUSBAR PROTECTION CABINET SIGNAL CABINET SIGNAL INTERPOSING CABINET MARSHALLING CABINET LOCAL CONTROL CABINET[8]
[Room]	The name of each room in the substation	Example Room Descriptions: CONTROL ROOM STOREROOM MESS ROOM GENERATOR ROOM TOILET (or WC) CABLE ROOM (GIS Only)

[8] LCC is accepted as an abbreviation for Local Control Cabinet.

7 Control Cables

7.1 Standard Text Sizes for LV Cable Labels

Labels for low voltage cables shall be as per the cable schedule.

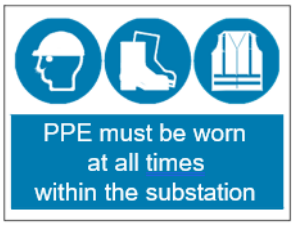
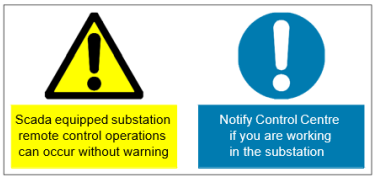
They shall be fitted securely at each end of each cable.

The minimum text height shall be 8 mm.

Further requirements for labelling of LV cabling are outside the scope of this document.

8 Compound and Building Labels and Signs

8.1 Gates, Fences and Main Building Door

Label/Sign contents	Text Height (mm)[9]	Main gate	Fence	Control Building Main Door
Line 1: [Substation Name] Line 2: [Voltage] SUBSTATION	50	1 mounted externally on main gate e.g. FINGLAS 220 kV SUBSTATION		
Line 1: [Substation Name] Line 2: [Voltage] SUBSTATION Line3: MAIN ENTRANCE	50			1 mounted externally on main door e.g. FINGLAS 220 kV SUBSTATION MAIN ENTRANCE
	See footnote 10	1 mounted externally on main gate		
	30	1 mounted externally on main gate		1 mounted externally on main door
	ESB Company Standard		1 mounted externally on every second section of compound fence	

[9] Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.

[10] The size of text and overall arrangement of safety signage is typically predetermined.

8.2 Battery Room Doors

Sign	Text Height (mm)[11]	Location, Notes & Details
	25	1 mounted on the outside of the entrance doors to the Battery Room [12], and any other areas classified as having an explosive atmosphere.
	25	1 mounted on the outside of the entrance doors to the Battery Room
	50	1 mounted on the outside of the entrance doors to the Battery Room
	50	1 mounted on the outside of the entrance doors to the Battery Room
	25	1 mounted on the outside of the entrance doors to the Battery Room
	25	1 mounted on the outside of the entrance doors to the Battery Room

[11] Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.
12 The term “entrance doors” refers to the double doors from the lobby/corridor to the battery room. There is no requirement to label the outside of the emergency escape door to the battery room.

8.3 Other Doors

Sign	Text Height (mm)[13]	Location, Notes & Details
[Room]	20	Located on the front of all rooms in the substation (other than the battery room. See section 6.2 for example room names.

8.4 External Walls

Label	Text Height (mm)[14]	Location, Notes & Details
	25	2 labels to be provided on the outside walls of the battery room: • 1 located between the two low level inlet vents • 1 located between the two high level outlet vents

8.5 Within Substation

Label	Text Height (mm)[15]	Location, Notes & Details
 (Example to be updated according to actual substation name and no. of earths required)	20	1 label to be provided in control room or area where the leads are stored.

[13] Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.
[14] Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.
[15] Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.

9 Labels for AIS Equipment

This section covers the labelling of AIS primary equipment and associated secondary equipment including Mechanism Boxes, Local Control Cabinets, Marshalling Cabinets etc.

9.1 Standard Text Sizes for AIS Labels

Table 2 Standard Text Heights for AIS Equipment and associated Secondary Equipment

Shorthand description	A#1	A#2	A#3
Label Text Height[16]	20 mm	40 mm	70 mm
Uses	Inside enclosures	Outside Enclosures including mech boxes, marshalling boxes, LCCs etc.	All labels mounted on support Steelwork

Situations may arise where a specified text height cannot be accommodated due to lack of space. In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.

9.2 Illustration of Standard AIS Text Heights

The size of each of the above text heights is represented approximately on the following pages.

9.2.1 Size A#1

Text specified to have size "A#1" shall have a height from top to bottom of 20 mm.
The following examples provide an illustration of the font size.[17]

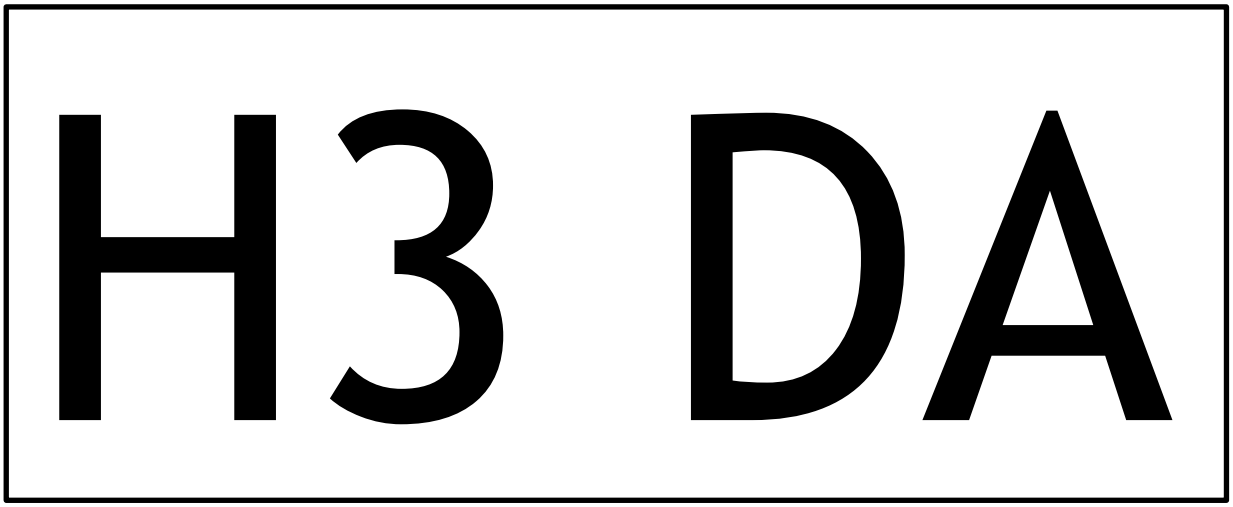
H3 DA

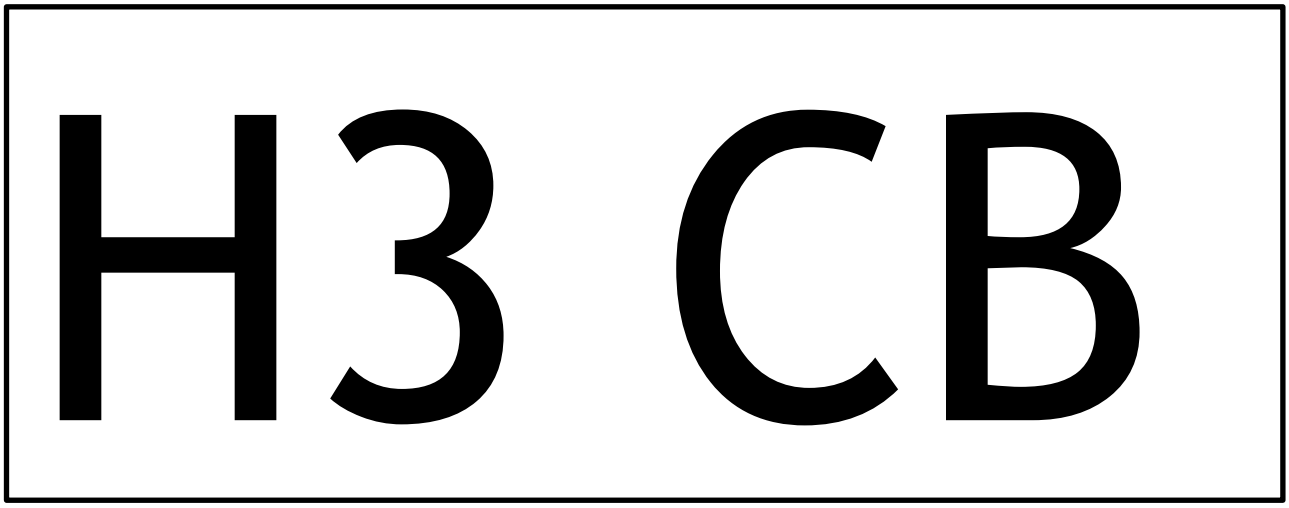
H3 DEM1

[16] The height refers to the height from top to bottom of capital letters and numbers with the Arial font.
[17] The font used is Arial 80, which is expected to print to a height of 20 mm on an A4 page.

9.2.2 Size A#2

Text specified to have size “A#2” shall have a height from top to bottom of 40 mm.
The following examples provide an illustration of the font size[18].

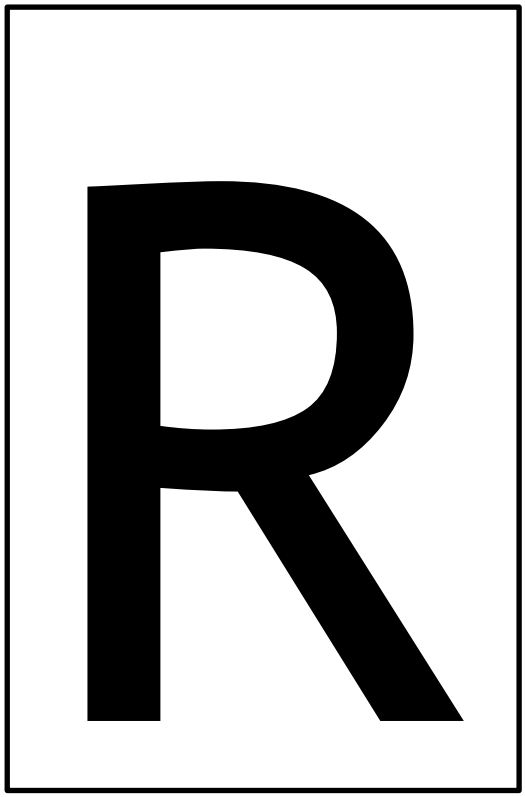




[18] The font used is Arial 160, which is expected to print to a height of 40 mm on an A4 page.

9.2.3 Size A#3

The Text specified to have size “A#3” shall have a height from top to bottom of 70 mm.
Most labels of this size cannot be illustrated on an A4 document; however, the following example provides an illustration of the font size[19].



[19] The font used is Arial 280, which is expected to print to a height of 70 mm on an A4 page.

9.3 Location Independent AIS Labels and Signs

Location independent labels are those that do not include a bay code, bay name or busbar section.

9.3.1 Phase Identification Labelling

Type	Specification	Examples
Phase ID	[Phase]	R

Size **A#3** phase identification labelling is required on the front and back of all support steelwork within each bay, and any line support gantries within the substation.[20].

Each phase identification label shall be:

- located on the top horizontal support steel member,

  OR

  high up on a vertical supporting steel column.

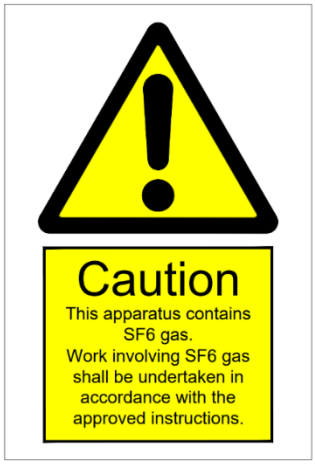
AND

- directly beneath the equipment of the correct phase as far as possible.

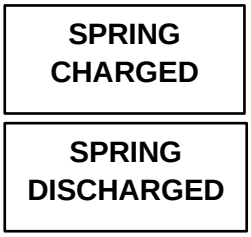
[20] Refer to Section 2 Terminology.

9.3.2 Circuit Breakers

All AIS circuit breakers require the following location independent signs and labels. [21]

Description	Specification	Location
Warning Sign		**7 mm min text height.** Label to be installed close to the densimeter
Warning Sign		**4 mm (min) text height.** Located in each circuit breaker mech box adjacent to manual charging point
Warning Sign		**4 mm (min) text height.** Located in each circuit breaker mech box adjacent to manual operation point

[21] Location dependent labelling shall be provided in accordance with section 9.4.

Description	Specification	Location
Position indication	 The word 'OFF' in white text on a green background shall be used to indicate that the breaker is in the open position.  The word 'ON' in white text on a red background shall be used to indicate that the breaker is in the closed position.	One of each to be provided if the position indication labels provided by the circuit breaker manufacturer does not follow this convention. **Text Height - A#2 or, if this is not possible, as large as possible within the available space.**
Spring Charged		One of each to be provided if the spring charge indication provided by the breaker manufacturer does not follow this convention. **Text Height - 5mm or as large as possible. The replacement label shall be the same size as the original OEM label.**

9.3.3 Surge Arresters

All surge arresters shall have the following labels:

Label Type	Specification and Location	Examples
Phase Label	[Phase] Size **A#3** Label to be installed on **both sides** of the support steelwork.	R S T N
Warning Sign	 Size: **ESB Standard** Label to be installed on front **side** of each support steelwork for each pole, mounted above the surge counter.	

9.4 Location Dependent AIS Labelling

The labels in this section vary depending on the bay or busbar section of the equipment.

9.4.1 AIS Busbar Identification

The following labels shall be provided for each busbar section:

Type	Specification	Examples
Busbar ID	[VOLTAGE] BUSBAR [BUSBAR SECTION] ← Size A#3 label to be installed at high level on both sides of the busbar support steelwork and at both ends of the busbar section. The arrow on each label shall point towards the centre of the busbar.	110 kV BUSBAR A1 ← 110 kV BUSBAR A1 →

Busbar Earthing switches are included in section 9.4.3.

9.4.2 AIS Bay Identification

Bay Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name]	H7 FINGLAS H3 T131

Each item of AIS switchgear shall have

- A size **A#3** bay identification label[22] located on the front and back of the support steelwork. Each bay identification label shall be:
  - located on the top horizontal support steel member,

    OR

    high up on a vertical supporting steel column.

  AND
  - beneath the central phase of equipment as far as possible.

9.4.3 AIS Switchgear Equipment Identification

The purpose of switchgear identification labelling is for operators to identify the correct items of equipment to be switched.

Switchgear Equipment Identification Labelling shall be in accordance with the following formula:

[22] Bay Identification is abbreviated to “Bay ID” elsewhere in this document.

Type	Specification	Examples
Equip. ID	[Bay Code] [Equipment Code]	H7 DA

Each item of AIS switchgear shall have the following equipment identification labels:

- A Size A#2 equipment identification label on the outside of each mechanism box.
- A Size A#1 equipment identification label on the inside of each mechanism box.
- Additional Size A#1 labels inside the LCC as required to meet the general principle for the labelling of enclosures outlined in section 3.2.2.

If the mechanism box is not integrated into the support steelwork a **Size A#3** equipment identification label shall also be provided located on the front and back of the support steelwork.

Where required, each of these shall be:

- located on the top horizontal support steel member,

  OR

  high up on a vertical supporting steel column.

AND

- under the centre phase as far as possible (for switchgear that is operated as a single three pole set of devices) [23]

  OR

- under each phase as far as possible if each pole of the switchgear is operated independently.

Because the Disconnector and Earthing Switch are integrated into the support steelwork there is no requirement to include equipment identification label on the steelwork.

9.4.4 AIS Cable Sealing End Equipment Identification

Cable Sealing End Equipment Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples
Cable Sealing End Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE	H1 T141 110 kV CABLE

A **Size A#3** cable sealing equipment identification label shall be provided on the front and back of the each support steelwork.

- located on the top horizontal support steel member,

  OR

  high up on a vertical supporting steel column.

AND

[23] Or as central as possible.

- under the centre phase as far as possible

9.4.5 AIS Cable Link Box Equipment Identification

Cable Link Boxes within Transmission substations shall be labelled in accordance with the following formula:

Type	Specification	Examples
Cable Link Box Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE LINK BOX.	H1 T141 110 kV CABLE LINK BOX

A size A#2 cable link box identification label shall be installed on the outside of each link box.
I
A size A#1 cable link box identification label shall be installed on the inside of the link box. This shall meet the general principle for labelling of enclosures outlined in section 3.2.2.

9.5 Examples of Location Dependent Labels for Different AIS Bay Types

9.5.1 AIS Busbar

This section provides an example of location dependent labelling for Busbar A1 of a 110 kV Busbar.

The example Busbar Section is **A1**

Type	Specification	Examples
Busbar ID	[VOLTAGE] BUSBAR [BUSBAR SECTION] ← Label to be installed on busbar support steelwork. See section 9.4.1.	110 kV BUSBAR A1 ← 110 kV BUSBAR A1 →

Busbar earthing switches shall be labelled according to the bay in which they are installed.

See section 9.5.5 for an example of a busbar Earthing Switch mounted in a wing coupler bay.

See section 9.5.6 for an example of a busbar Earthing Switch mounted in a sectionaliser bay.

9.5.2 AIS Double Busbar Line Bay

This section provides an example of location dependent labelling for a 110 kV Line bay[24] in a double busbar AIS station.

- The Bay Code is H3
- The Bay Name is FINGLAS (taken as an arbitrary example of a possible line bay name)
- The disconnects and earthing switches are assumed to be integrated and acting as a single three pole device
- The circuit breaker is assumed to be integrated and acting as a single three pole device
- The bay is an overhead line. There is no cable sealing end.

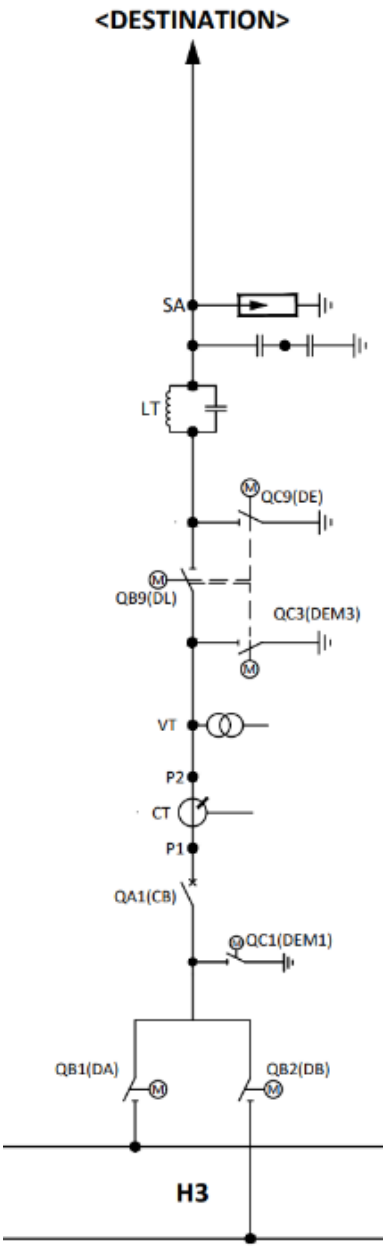


Figure 1 110 kV AIS Double Busbar Line Bay SLD

[24] Location independent AIS labels are described in section 9.3. Section 10 provides a worked example of a full set of bay labels for an example bay, i.e. including both location dependent and location independent labels.

Table 3 Example 110 kV AIS - Location Dependent Labels

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Labels to be installed on the front and back of the support steelwork of all switchgear. See section 9.4.1	H3 FINGLAS
Equip. ID	[Bay Code] [Equipment Code] Labels to be installed on the outside and inside of each mechanism box. See section 9.4.3.	H3 DA H3 DB H3 DEM1 H3 CB H3 DEM3 H3 DL H3 DE

9.5.3 AIS Double Busbar Customer Transformer Bay

This section provides an example of location dependent labelling for a 110 kV AIS Customer transformer bay in a double busbar AIS station, which does not have a Customer breaker on the high voltage side of the transformer[25].

- The Bay Code is H1.
- The Bay Name is T131 (taken as an example of a possible Transformer bay name).
- The disconnects and earthing switches are assumed to be integrated and acting as a single three pole device.
- The circuit breaker is assumed to be integrated. Examples are given of both single pole and three pole operating circuit breakers.

[25]Location independent AIS labels are described in section 9.3. Section 10 provides a worked example of a full set of bay labels for an example bay, i.e. including both location dependent and location independent labels.

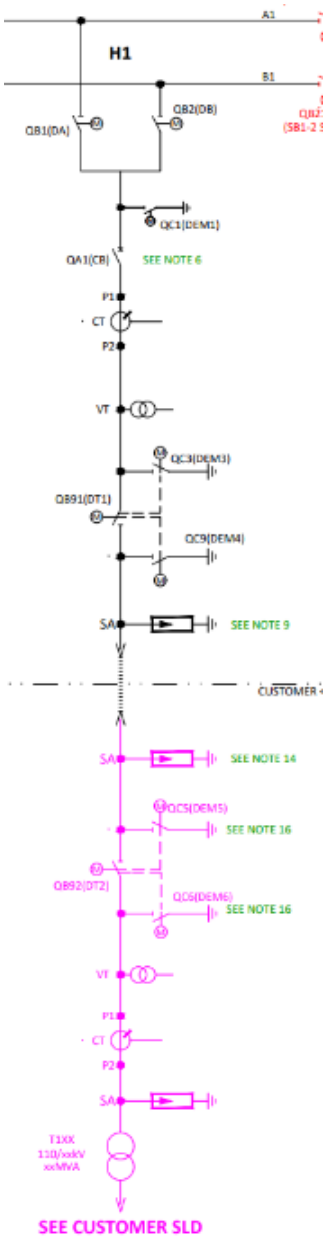


Figure 2 110 kV AIS Double Busbar Customer Transformer Bay SLD

Table 4 Example 110 kV AIS Customer Transformer Bay – Location Dependent Labels

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Label to be installed on the front and back of the support steelwork of all switchgear. See section 9.4.1.	H1 T131

Type	Specification		Examples
ESB Equip. ID	[Bay Code] [Equipment Code] Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE	Switchgear equip. ID labelling to be installed on the outside and inside of switchgear mechanism boxes or other associated enclosures. See section 9.4.3 Cable sealing end equip. ID labelling to be installed on the cable sealing end support steelwork. See section 9.4.4.	H1 DA H1 DB H1 DEM1 Example of single pole circuit breaker: H1 CB R H1 CB S H1 CB T Example of three pole circuit breaker: H1 CB H1 DEM3 H1 DT1 H1 DEM4 Cable sealing end: H1 T131 110 kV CABLE

9.5.4 AIS Double Busbar Customer Line Bay

This section provides an example of location dependent labelling for a 110 kV AIS Customer line bay which has a Customer breaker on the high voltage side of the transformer[26].

- The Bay Code is H1.
- The name of the Customer substation is Stephenville.
- The Bay Name is Stephenville.
- The disconnects and earthing switches are assumed to be integrated and acting as a single three pole device.
- The circuit breaker is assumed to be integrated. Examples are given of both single pole and three pole operating circuit breakers.

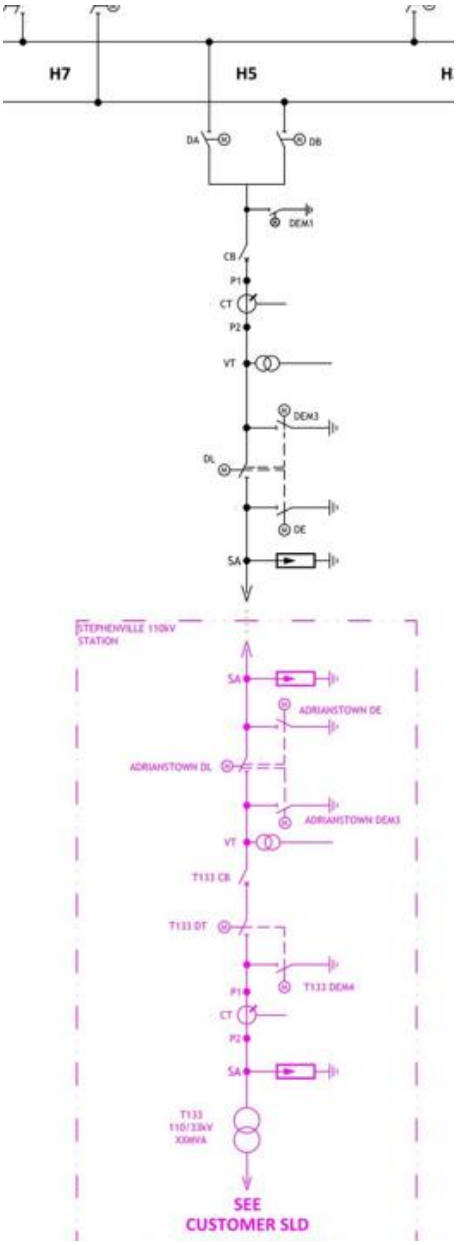


Figure 3 110 kV AIS Double Busbar Customer Line Bay SLD

[26]Location independent AIS labels are described in section 9.3. Section 10 provides a worked example of a full set of bay labels for an example bay, i.e. including both location dependent and location independent labels.

Table 5 Double Busbar 110 kV AIS Customer Line Bay – Location Dependent Labels

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Label to be installed on the front and back of the support steelwork of all switchgear. See section 9.4.1.	H1 STEPHENVILLE
Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE Switchgear equip. ID labelling to be installed on the outside and inside of switchgear mechanism boxes or other associated enclosures. See section 9.4.3 [Bay Code] [Equipment Code] Cable sealing end equip. ID labelling to be installed on the cable sealing end support steelwork. See section 9.4.4.	H1 DA H1 DB H1 DEM1 Example of single pole circuit breaker: H1 CB R H1 CB S H1 CB T Example of three pole circuit breaker: H1 CB H1 STEPHENVILLE 1 DEM3 H1 STEPHENVILLE 1 DL H1 STEPHENVILLE 1 DE Cable sealing end: H1 T131 110 kV CABLE

9.5.5 AIS Double Busbar Wing Coupler Bay

This section provides an example of location dependent labelling for a 110 kV AIS Wing Coupler bay[27].

-The example bay code is H9.

-The example bay name is COUPLER K1.

-The disconnects and earthing switches are assumed to be integrated and acting as a single three pole device.

-The circuit breaker is assumed to be integrated and acting as a single three pole device.

-In this example the busbar earthing switches are mounted on steelwork supporting the associated wing coupler disconnects.

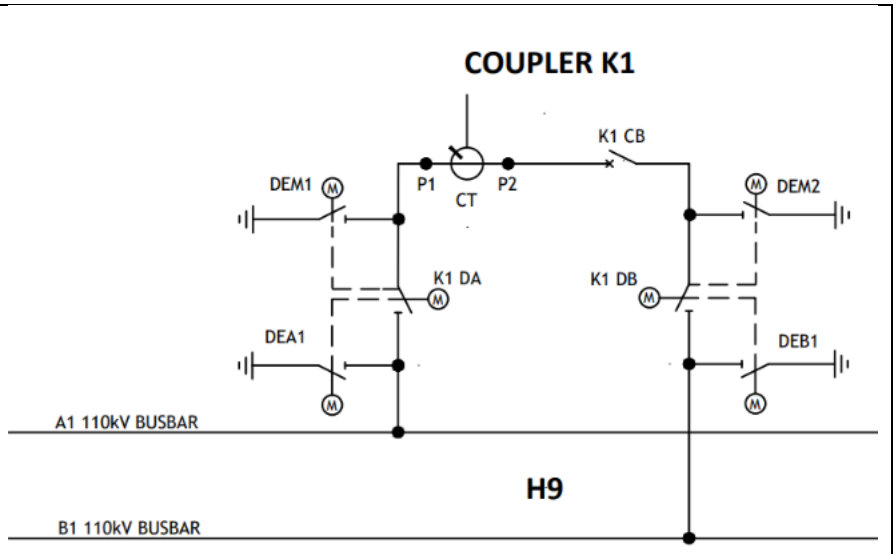


Figure 4 110 kV AIS Double Busbar Wing Coupler SLD

Table 6 Example 110 kV AIS Wing Coupler Bay - Location Dependent Labels

Type	Specification	Examples
Bay ID Label	[Bay Code] [Bay Name] Label to be installed on the front and back of the support steelwork of all switchgear. See section 9.4.1.	H9 COUPLER K1
Equip. ID Label	Labels to [Bay Code] [Equipment Code] be installed on the outside and inside of each switchgear mechanism box. See section 9.4.3.	H9 K1 DA H9 K1 DEM1 H9 K1 CB H9 K1 DEM2 H9 K1 DB

[27] Location independent labels are described in section 9.3. Section 10 provides a worked example of a full set of bay labels for an example bay, i.e. including both location dependent and location independent labels.

Type	Specification	Examples
		Examples of busbar earthing switches mounted in wing coupler bay H9: H9 DEA1 H9 DEB1

9.5.6 AIS Double Busbar Sectionaliser Bay

This section provides an example of location dependent labelling for a 110 kV Sectionaliser bay[28].

- The example bay code is H0A.
- The bay name is SECTIONALISER SA1-2.
- The disconnects and earthing switches are assumed to be integrated and acting as a single three pole device
- The circuit breaker is assumed to be integrated and acting as a single three pole device
- Although not shown in this Figure, example labels are provided in Table 7 where busbar earthing switches are mounted on the same steelwork as sectionaliser disconnects.

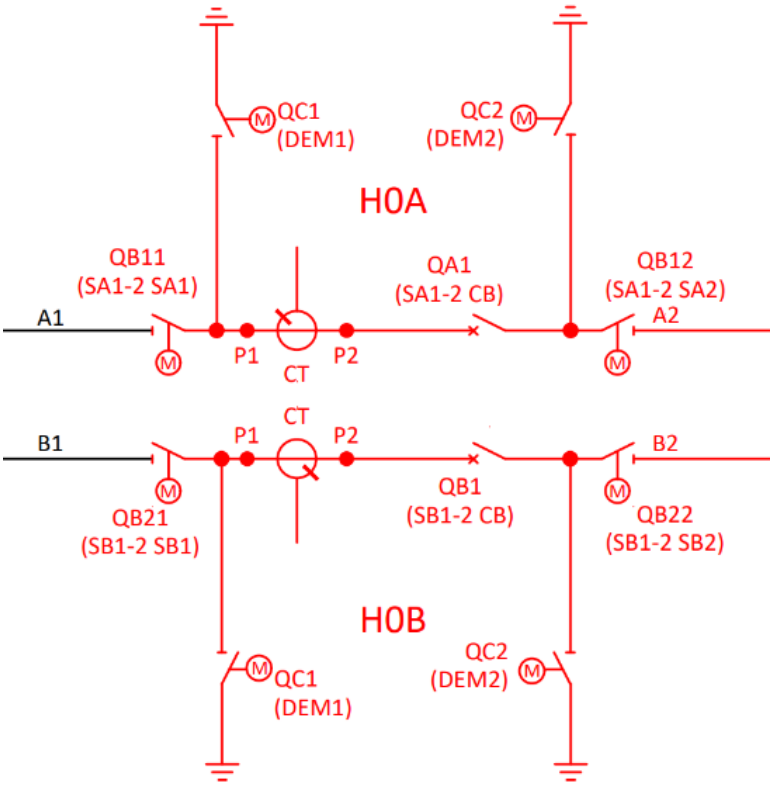


Figure 5 Example 110 kV AIS Sectionaliser Bay SLD

[28] Location independent AIS labels are described in section 9.3. Section 10 provides a worked example of a full set of bay labels for an example bay, i.e. including both location dependent and location independent labels.

Table 7 Example 110 kV AIS Sectionaliser Bay – Location Dependent Labels

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Label to be installed on the front and back of the support steelwork of all switchgear. See section 9.4.1	H0A SECTIONALISER SA1-2
Equip. ID	[Bay Code] [Equipment Code] Labels to be installed on the outside and inside of each mechanism box. See section 9.4.3.	H0A SA1-2 SA1 H0A SA1-2 DEM1 H0A SA1-2 CB H0A SA1-2 SA2 H0A SA1-2 DEM2 Examples of busbar earthing switches mounted in sectionaliser bays: H0A DEA1 H0B DEB1

Type	Specification	Examples
Busbar ID	Size A#3 label to be installed on busbar support steelwork at each end of the busbar section. The arrow on each label shall point towards the busbar	
Equip. ID	Labels to be installed on the outside and inside of each mechanism box. See section 10	**DEA1**

10 Full Worked Example -110 kV AIS Customer Transformer Bay

This section provides a worked example of the labelling required for a 110 kV Customer transformer bay.

The following worked example provides:

1. Bay independent labelling
2. Location dependent labelling
3. Sizes of labels
4. Example drawings
    - The drawings are for illustration purposes only and are not to scale.
    - A single view only of each support steelwork is shown.
    - The phasing labels indicated are an example only. The Customer shall apply phase labelling according to the actual circuit phasing and the orientation of the observer. ,
    - The phasing labels indicated are an example only. The Customer shall apply phase labelling according to the actual circuit phasing and the orientation of the observer. ,

The example bay is the same as considered in section 9.5.3., so the location dependent labelling is the same.

- The Bay Code is **H1.**
- The Bay Name is **T131** (taken as an example of a possible Transformer bay name).
- The disconnects and earthing switches are each assumed to be integrated and acting as a single three pole device.
- The circuit breaker is assumed to be integrated. Examples are given of both single pole and three pole operating breakers.
- Cable Sealing end (under the fence connection)

10.1 Busbars Disconnector DA

Support Structure	Type	Specification		Examples
Busbar Disconnector DA	Bay ID	Size **A#3** Label to be installed on the front and back of the support steelwork, see section 9.4.1	[Bay Code] [Bay Name]	H1 T131
	Equip. ID	Size **A#2** label to be installed on outside of mechanism box. Size **A#1** label to be installed on inside of mechanism box. See section 9.4.3	[Bay Code] [Equipment Code]	H1 DA
	Phase ID	Size **A#3** Label for each pole, installed on both sides of support steelwork, see section 9.3.1	[Phase]	R

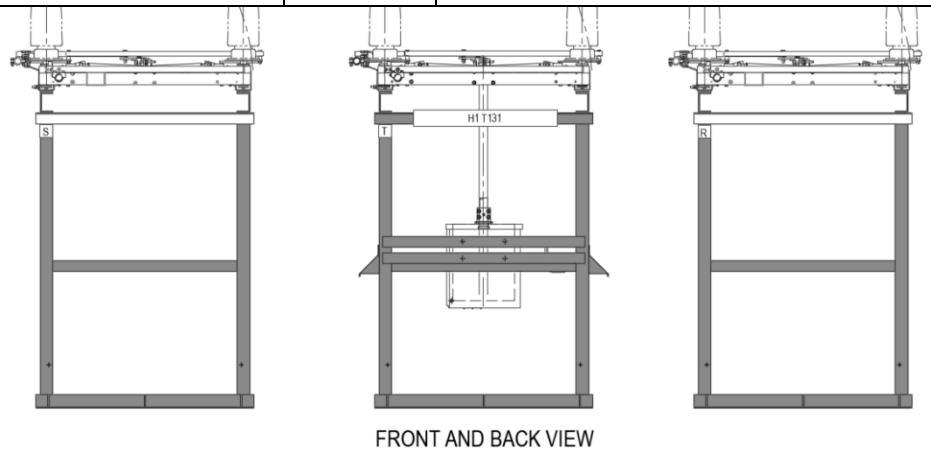


Figure 6 Labelling for AIS Busbar Disconnector Steelwork

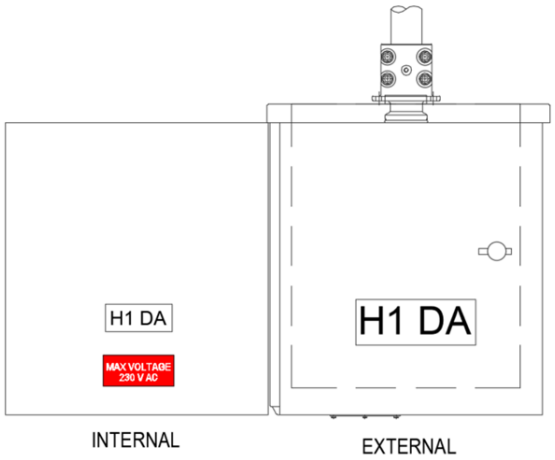


Figure 7 Labelling for AIS Busbar Disconnector DA Mech Box

10.2 Busbar Disconnector DB

Support Structure	Type	Specification		Examples
Busbar Disconnector DB	Bay ID	Size **A#3** Label to be installed on the front and back of the support steelwork, see section 9.4.1	[Bay Code] [Bay Name]	H1 T131
	Equip. ID	Size **A#2** label to be installed on outside of mechanism box. Size **A#1** label to be installed on inside of mechanism box. See section 9.4.3	[Bay Code] [Equipment Code]	H1 DB
	Phase ID	Size **A#3** Label for each pole, installed on both sides of support steelwork, see section 9.3.1	[Phase]	R

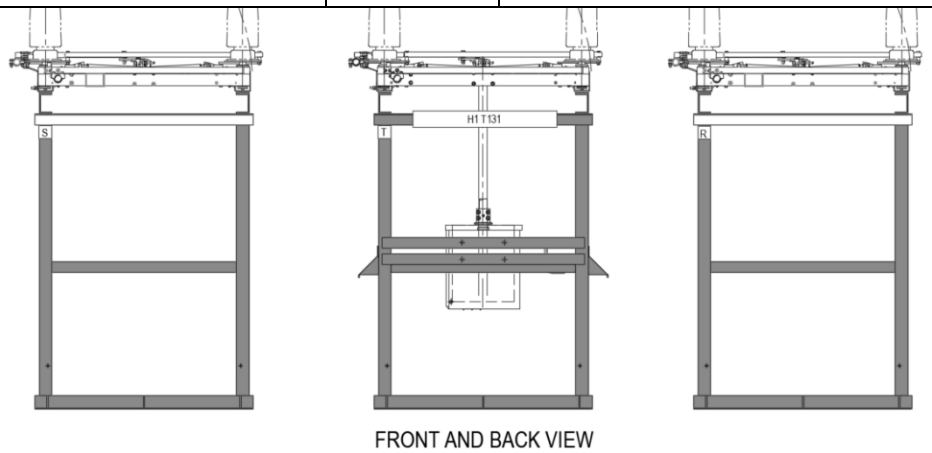


Figure 8 Labelling for AIS Busbar Disconnector Steelwork

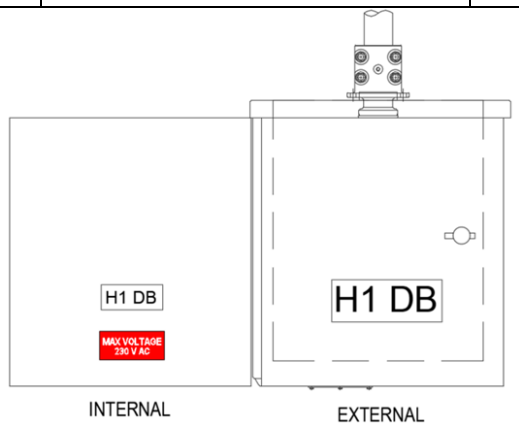


Figure 9 Labelling for AIS Busbar Disconnector DB Mech Box

10.3 Earthing Switch DEM1

The labelling presented in this section assumes that DEM1 is mounted on a standalone structure, separate from DA and DB.

Support Structure	Type	Specification		Examples
DEM1	Bay ID	Size **A#3** Label to be installed on the front and back of the support steelwork, see section 9.4.1[29]	[Bay Code] [Bay Name]	H1 T131
	Equip. ID	(There is no phase element as all three poles are operated together) Size **A#2** label to be installed on outside of mechanism box. Size **A#1** label to be installed on inside of mechanism box. See section 9.4.3	[Bay Code] [Equipment Code]	H1 DEM1
	Phase ID	Size **A#3** Label to be located front and back of support steelwork, see section 9.4.1[29]	[Phase]	R

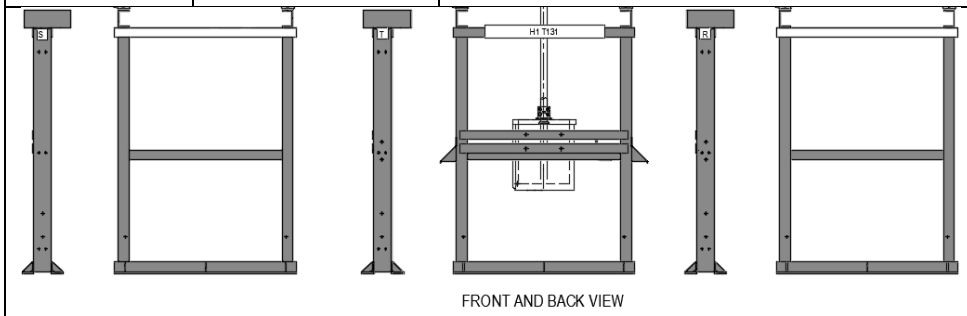


Figure 10 Labelling for Earthing Switch DEM1 Steelwork

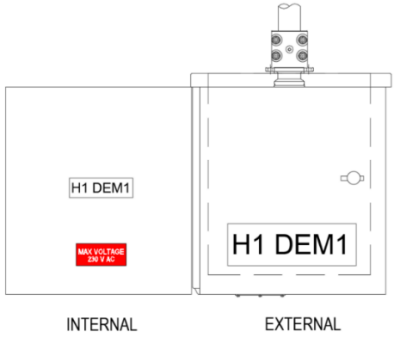


Figure 11 Labelling for Earthing Switch DEM1 Mechanism Box

[29] This is only required if the support steelwork is standalone. If the steelwork is common to DA or DB then additional bay identification and phase identification labels are not required, i.e. the bay identification and phase identification labels in sections 10.1 and 10.2 are sufficient.

10.4 Circuit Breaker CB

Support Structure	Type	Specification		Examples
Circuit Breaker	Bay ID	Size **A#3** Label to be installed on the front and back of the support steelwork, see section 9.4.1	[Bay Code] [Bay Name]	H1 T131
	Equip. ID	Size **A#2** label to be installed on outside of each mechanism box. Size **A#1** label to be installed on inside of each mechanism box. See section 9.4.3.	[Bay Code] [Equipment Code] *[Phase]*	If there is single pole circuit breaker operation: H1 CB R If there is three-pole circuit breaker operation: H1 CB
	Phase ID	Size **A#3** Label for each pole, installed on **both sides** of support steelwork, see section 9.3.1	[Phase]	R

Support Structure	Type	Specification	Examples

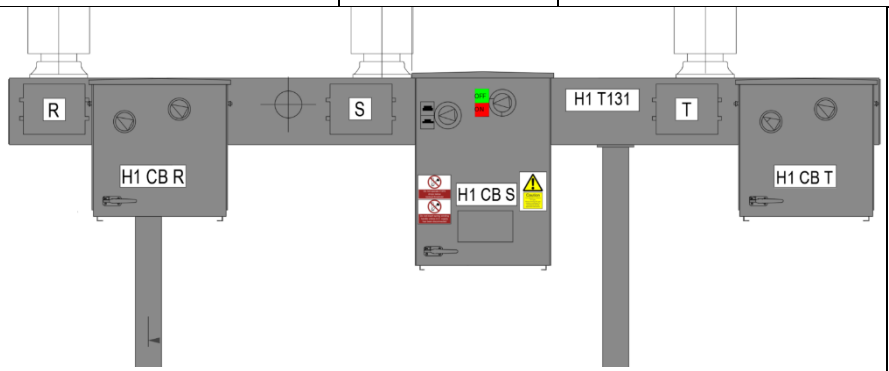


Figure 12 Labelling for Circuit Breaker Steelwork and Mech Boxes (Single Pole)

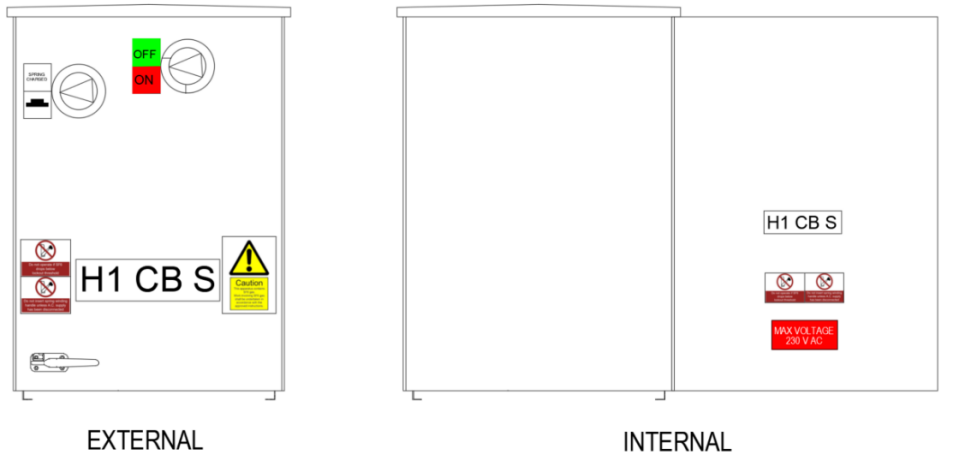


Figure 13 Labelling for AIS Circuit breaker Single Pole Mech Box

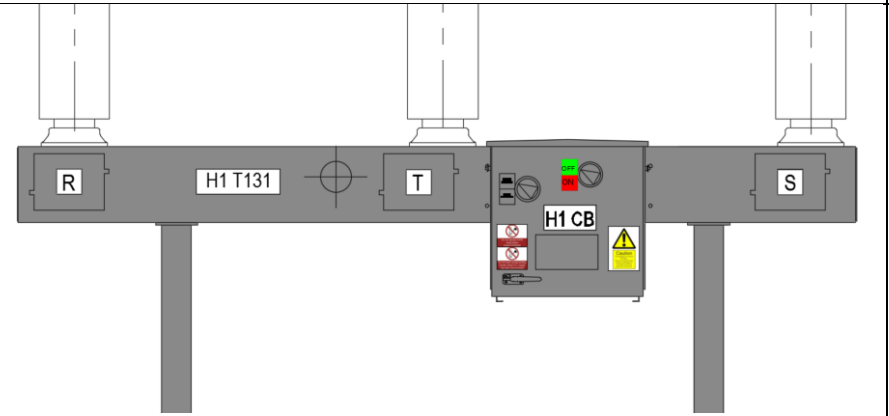


Figure 14 Labelling for AIS Circuit Breaker Three Pole

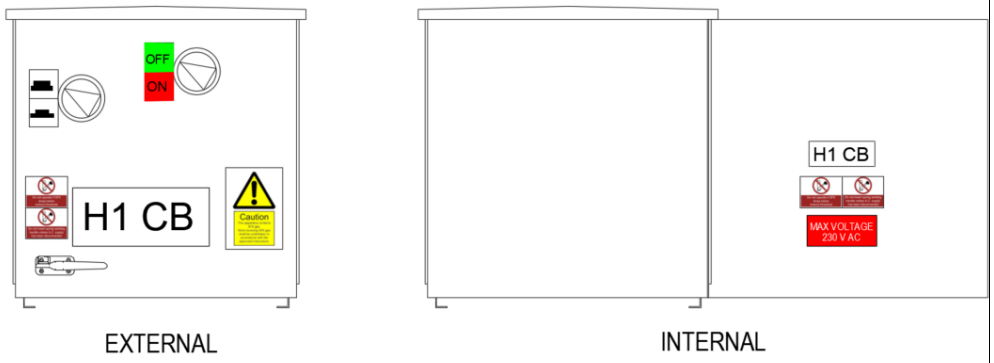


Figure 15 Labelling for AIS Circuit breaker Three Pole Mech Box

Support Structure	Type	Specification	Examples

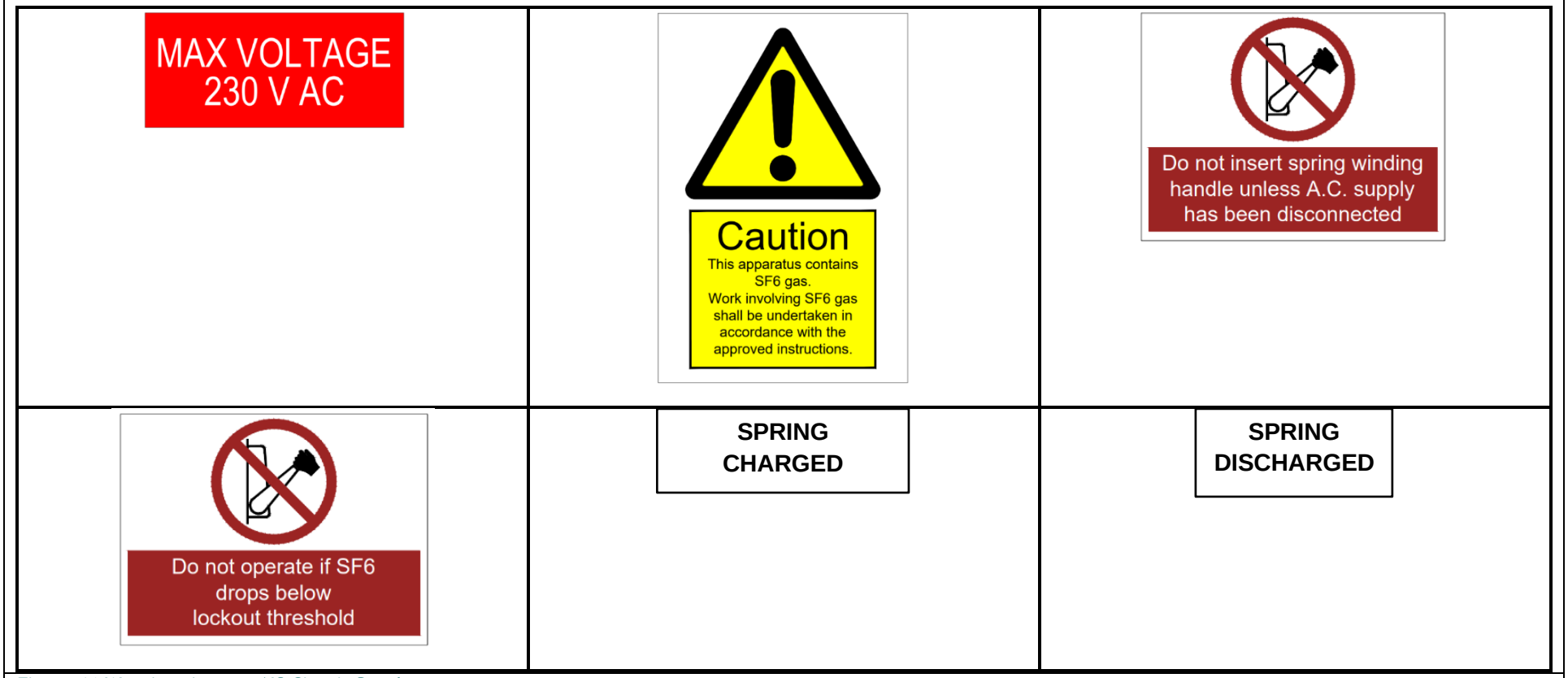


Figure 16 Warning signs on AIS Circuit Breaker

10.5 Current Transformer

Support Structure	Type	Specification		Examples
Current Transformer	Phase	Size **A#3** Label for each pole, installed on **both sides** of support steelwork, see section 9.3.1	[Phase]	R S T

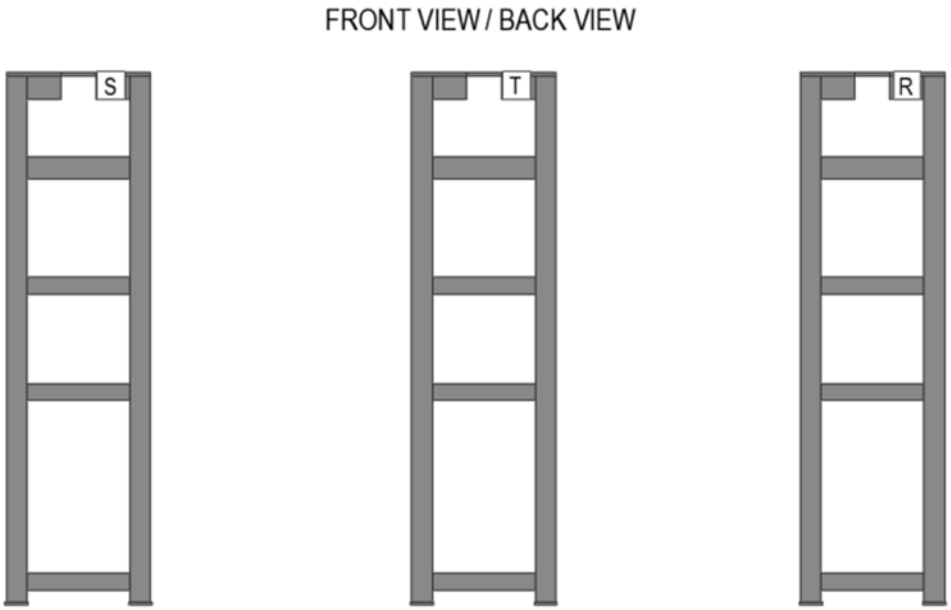


Figure 17 Labelling for AIS Current Transformers

10.6 Voltage Transformer

Support Structure	Type	Specification		Examples
Voltage Transformer	Phase	Size **A#3** Label for each pole, installed on **both sides** of support steelwork, see section 9.3.1	[Phase]	R S T

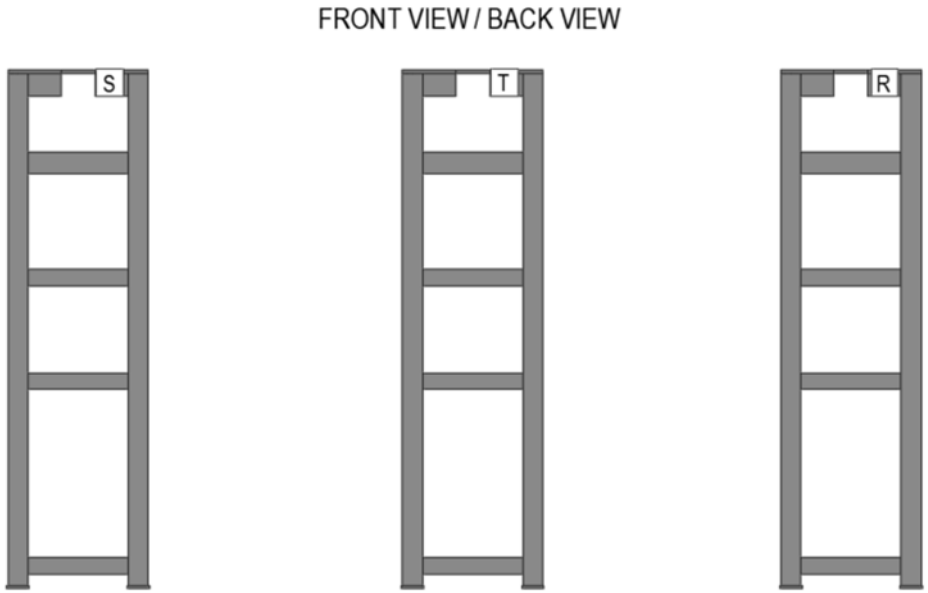
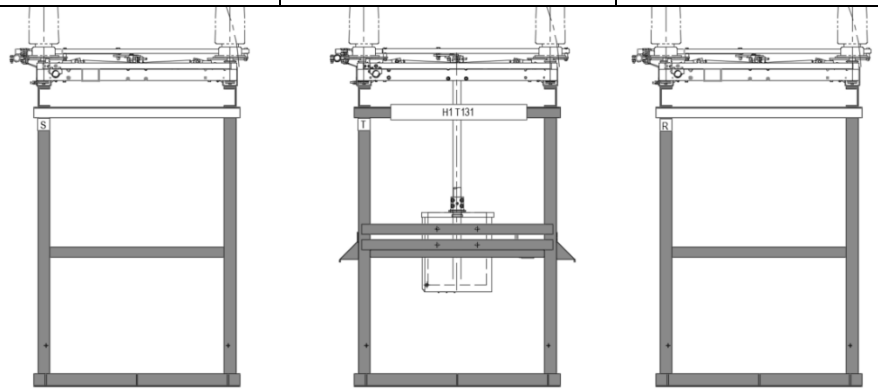
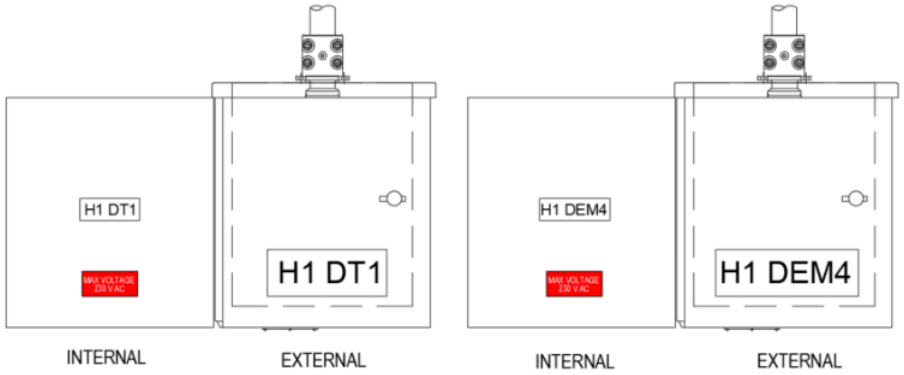


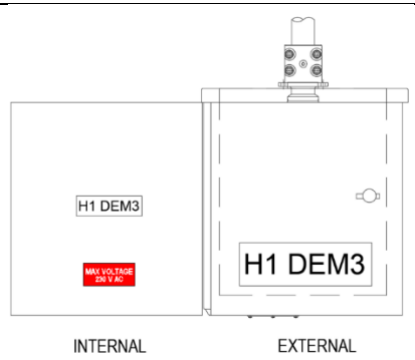
Figure 18 Labelling for AIS Voltage Transformer

10.7 DEM3/DT1/DEM4

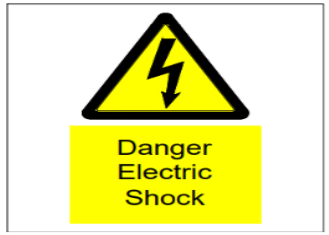
Support Structure	Type	Specification		Examples
DEM3/ DT1/DEM4	Bay ID	Size **A#3** Label to be installed on the front and back of the support steelwork, see section 9.4.1	[Bay Code] [Bay Name]	H1 T131
	Equip. ID	(There is no phase element as all three poles are operated together) Size **A#2** label to be installed on outside of mechanism box. Size **A#1** label to be installed on inside of mechanism box. See section 9.4.3	[Bay Code] [Equipment Code]	H1 DEM3 H1 DT1 H1 DEM4
	Phase ID	Size **A#3** Label to be located front and back of support steelwork, see section 9.4.1	[Phase]	R





Support Structure	Type	Specification	Examples
			
Figure 19 Labelling for AIS Busbar Disconnector DT/DEM4/DEM3 Steelwork		*Figure 20 Labelling for AIS Busbar Disconnector DT1/DEM4/DEM3 Mech Boxes*	

10.8 Surge Arrester

Support Structure	Type	Specification		Examples
Surge Arrester	Warning Sign	Size: ESB Standard Label to be installed on front **side** of support steelwork for each pole. See section 9.3.3.		
	Phase	Size **A#3** Label for each pole, installed on **both sides** of support steelwork, see section 9.3.1	[Phase]	R

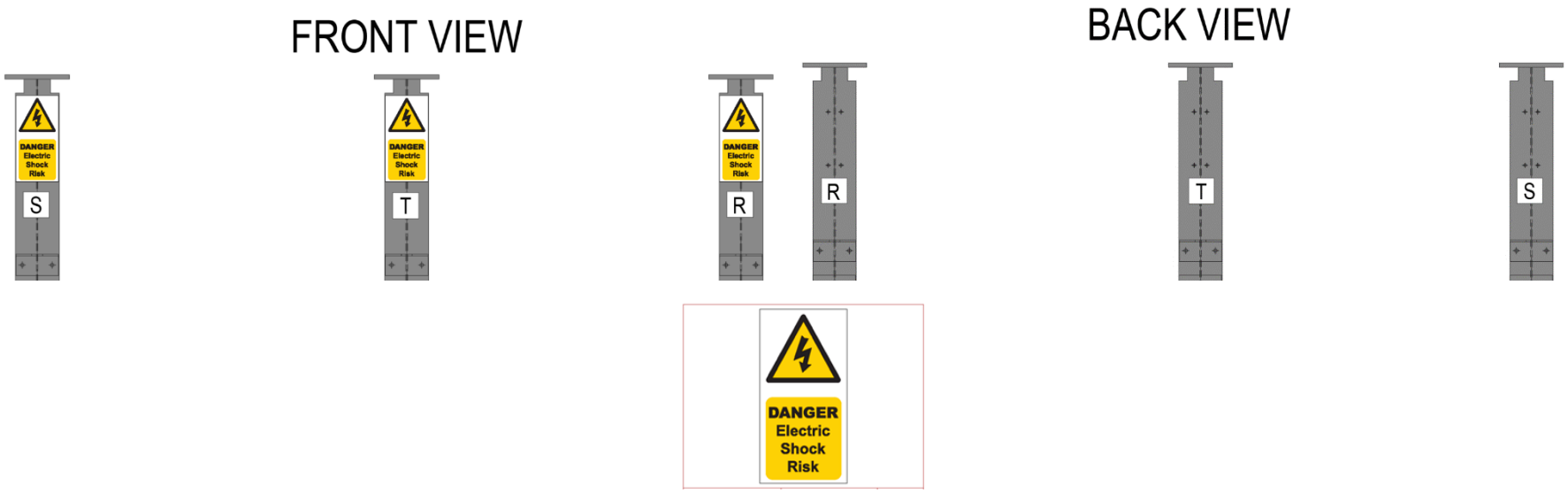


Figure 21 Labelling for Surge Arrester

10.9 Cable Sealing End

Support Structure	Type	Specification		Examples
Cable Sealing End	Phase	Size **A#3** Label to be located front and back of support steelwork. See section 9.4.1	[Phase]	R S T
	Equip. ID Label	Size **A#3** Label to be located front and back of support steelwork. See section 9.4.3.	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE	H1 T131 110 kV CABLE

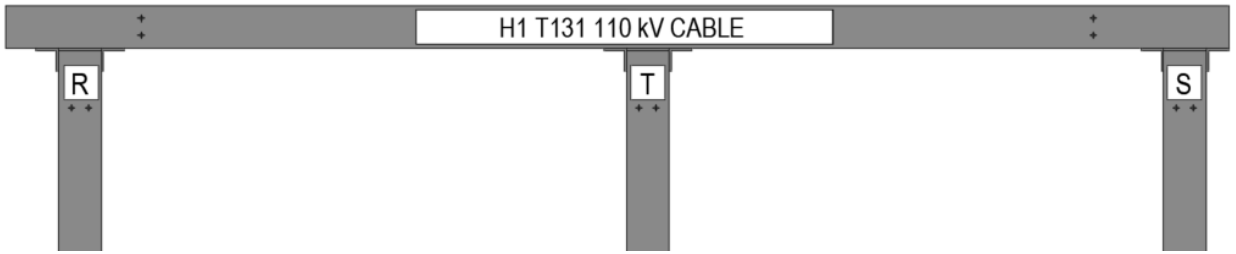


Figure 15. Labelling for Cable Sealing End

Support Structure	Type	Specification		Examples
Gantry	Equip. ID Label	Size **A#3** Label to be located front and back of support steelwork. See section 9.4.3.	GANTRY No.	GANTRY

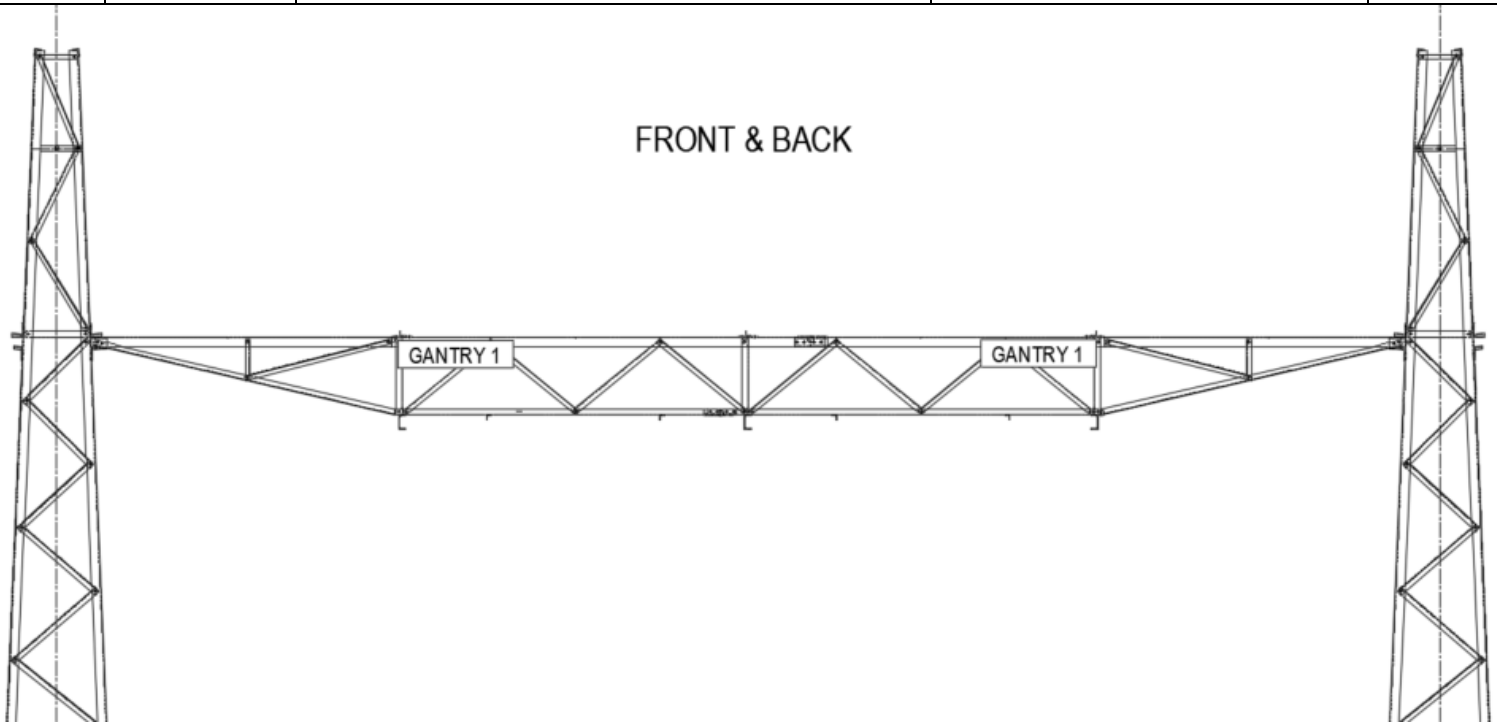


Figure 16. Labelling for Gantry

11 Labels for GIS Equipment

This section covers the labelling of GIS primary equipment and associated secondary equipment including local control cabinets and any enclosures mounted on the GIS.

11.1 Standard Text Heights for GIS Labels

Table 8 Standard Text Heights for GIS Equipment and associated Secondary Equipment

	G#1	G#2	G#3
Label Text Height	10 mm	20 mm	50 mm
Uses	For items of GIS equipment that do not appear on the single line diagram e.g. viewports etc. **or** For items which are too small to accommodate a label with 20 mm text height.	HV Equipment identification e.g. F3 CB R Outside and inside Panels and enclosures. Bay ID Labels Outside and inside integrated LCCs[30]	Phase Markings Bay ID Labels on GIS or LCCs mounted on GIS. e.g. F3 T131

Situations may arise where the above sizes cannot be accommodated due to lack of space.

In such cases the Customer should advise EirGrid and propose an alternative with a text height as close as possible to the prescribed value.

[30] An integrated LCC is one which is mounted on the front of the switchgear.

11.2 Illustration of GIS Label Text Heights

The size of each of the above text heights is represented approximately on the following pages.

11.2.1 Size G#1

Text specified to have size “G#1” shall have a height from top to bottom of 10 mm.
The following examples provide an illustration of the font size.[31]

H9 K1-CB

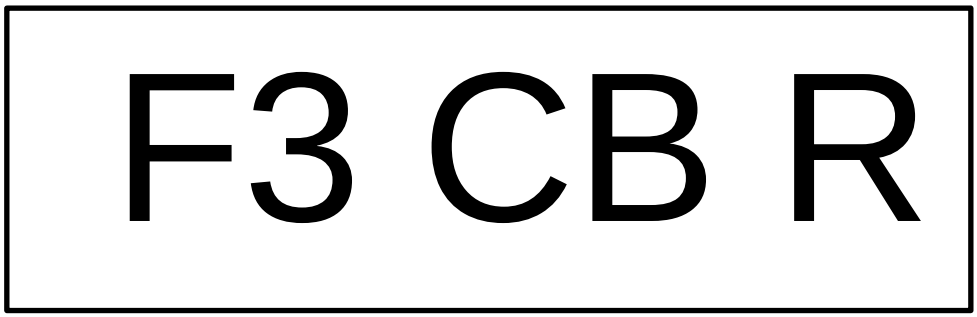
H0A SA1-2

F2 FINGLAS 220 kV
CABLE LINK BOX

[31] The font used is Arial 40, which is expected to print to a height of 10 mm on an A4 page.

11.2.2 Size G#2

Text specified to have size “G#2” shall have a height from top to bottom of 20 mm.
The following examples provide an illustration of the font size.[32]



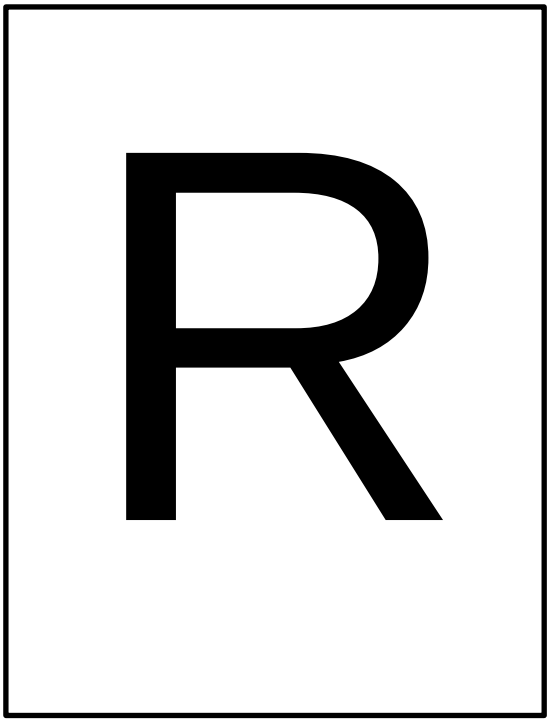
[32] The font used is Arial 80, which is expected to print to a height of 20 mm on an A4 page.


H0A
SECTIONALISER

F2 FINGLAS 220 kV
CABLE LINK BOX

11.2.3 Size G#3

Text specified to have size “G#3 shall have a height from top to bottom of 50 mm.
Most labels of this size cannot be illustrated on an A4 document. The following however gives an illustration of the font size. [33]



[33] The font used is Arial 200, which is expected to print to a height of 50 mm on an A4 page.

11.3 Location Independent GIS Labels

Location independent labels are those that do not include a bay code, bay name or busbar section.

11.3.1 Phase Identification Labelling

Type	Specification	Examples
Phase ID	[Phase]	R

Size G#3 phase identification labelling is required on all GIS enclosures, sufficient for an operator to identify the phase of GIS equipment from a number of viewpoints, including the following:

- On the side of the Cable Termination Compartment.
- In Cable Basement: On HV Cable near the Ceiling.
- G#2 labels below CB Indication Ports on both front and back sides.
- At side of bay, on busbar compartments.
- At front and rear of Sectionaliser and Coupler Bays, on busbar compartments.

11.3.2 Circuit Breakers

Position indication	 The word 'OFF' in white text on a green background shall be used to indicate that the breaker is in the open position.  The word 'ON' in white text on a red background shall be used to indicate that the breaker is in the closed position.	One of each to be provided for each circuit breaker if the position indication labelling provided by the GIS manufacturer does not follow this convention. **Text Height - G#2 or, if this is not possible, as large as possible within the available space.**
Spring Charged	**SPRING CHARGED** **SPRING DISCHARGED**	One of each to be provided if the spring charge indication provided by the breaker manufacturer does not follow this convention. **Text Height - G#2 or, if this is not possible, as large as possible within the available space.**

Warning Signs		Warning signs may be required to warn against hazards associated with access or operation of the circuit breaker. Such signs may vary depending on the equipment and the space available. Warning Signs to be confirmed on a case by case basis.

11.3.3 Other Switchgear

Position indication	 The word 'OFF' in white text on a green background shall be used to indicate that the switchgear is in the open position.  The word 'ON' in white text on a red background shall be used to indicate that the switchgear is in the closed position.	One of each to be provided for all manual operating handles if the position indication labelling provided by the GIS manufacturer does not follow this convention. **Text Height - G#2 or, if this is not possible, as large as possible within the available space.**
Warning Signs		Warning signs may be required to warn against hazards associated with access or operation of the switchgear. Such signs may vary depending on the equipment and the space available. Warning Signs to be confirmed on a case by case basis.

11.4 Location Dependent GIS Labels

11.4.1 GIS Busbar Identification

Busbar Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples
Busbar Identification Label	[VOLTAGE] BUSBAR [BUSBAR SECTION] ←	110 kV BUSBAR A1 ← 110 kV BUSBAR A1 →

Size G#3 busbar identification labels shall be provided on busbar compartments at both ends of each busbar.

Equipment Identification Labels for Busbar Earthing switches which are mounted in a wing coupler bay are included in section 11.5.4.

Equipment Identification Labels for Busbar Earthing switches which are mounted in a sectionaliser bay are included in section 11.5.4.

11.4.2 GIS Bay Identification

Bay Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name]	H7 FINGLAS H3 T131

Size G#3 bay identification labels shall be provided for each bay as follows:

- at the front of the switchgear[34]
- At the back of the switchgear
- At the top of the switchgear from the walkway. If there is equipment on both sides of the walkway then bay identification shall be provided on both sides.
- In the cable room at the location where the cables rise up to the GIS

Size G#2 bay identification labels shall be provided for each bay as follows:

- at the front of the Local Control Cabinet (LCC).

Size G#1 bay identification labels shall be provided for each bay as follows:

- inside the LCC.
- Additional labels inside the LCC as required to meet the general principle for the labelling of enclosures outlined in section 3.2.2.

[34] This is not required if the LCC is mounted on the front of the switchgear.

11.4.3 GIS Switchgear Equipment Identification

The purpose of switchgear equipment identification labelling is for operators to identify the correct items of equipment to be switched.

Switchgear Equipment Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples
Equip. ID	[Bay Code] [Equipment Code] *[Phase]*	H7 DL R Internal isolating switch of first VT: F3 QB61 R, F3 QB61 S ,F3 QB61 T Internal isolating switch of second VT: F3 QB62 R, F3 QB62 S ,F3 QB62 T

For each item of switchgear, the following equipment identification labelling shall be provided:

- A size G#3 label on the gas compartment containing the equipment
- A size G#2 label on the outside of any associated LV enclosures, and adjacent to device operating points and device position indication points.
- A size G#1 label on the inside of any associated LV enclosures e.g. mechanism boxes etc. and on each associated view port.

  Additional size G#1 labels inside associated LV enclosures as required to meet the general principle for the labelling of enclosures outlined in section 3.2.2.

11.4.4 GIS Cable Sealing End Equipment Identification

Type	Specification	Examples
Cable Sealing End Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE	H1 T131 110 kV CABLE

For each cable sealing end, the following equipment identification labelling shall be provided:

- A size G#3 label on the side of the cable termination compartment.

11.4.5 GIS Cable Link Box Equipment Identification

Cable Link Boxes within Transmission substations shall be labelled in accordance with the following formula:

Type	Specification	Examples
Cable Link Box Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE LINK BOX.	H1 T131 110 kV CABLE LINK BOX

A size G#2 cable link box identification label shall be installed on the outside of the link box.

A size G#1 cable link box identification label shall be installed on the inside of the link box. This shall meet the general principle for labelling of enclosures outlined in section 3.2.2.

11.4.6 GIS Instrument Transformer Equipment Identification

Instrument Transformer Equipment Identification Labelling shall be in accordance with the following formula:

Type	Specification	Examples[35]
Equip. ID	**For Voltage Transformers:** [Bay Code] BA [No.] **For Current Transformers:** [Bay Code] BC [No.] *[Phase]*	H5 BA1 R H5 BA1 S H5 BA1 T H5 BA2 R H5 BA2 S H5 BA2 T Three phase CT example: H5 BC1 H5 BC2 Single Phase CT Examples: H5 BC1 R H5 BC1 S H5 BC1 T H5 BC2 R H5 BC2 S H5 BC2 T

For each item of switchgear, the following equipment identification labelling shall be provided:

- A size G#2 label on the outside of any associated CT or VT secondary boxes etc.
  A size G#2 label adjacent to ring CTs in the cable room.
- A size G#1 label on the inside of any associated CT or VT secondary boxes etc.
  Additional size G#1 labels inside associated LV enclosures as required to meet the general principle for the labelling of enclosures outlined in section 3.2.2.

[35] It is possible that GIS manufacturers update the naming of CTs and VTs compared with the EirGrid SLD. This should be considered and agreed with EirGrid as part of the agreed final project SLD, and then carried forward into the associated labels.

Type	Specification	Examples
Bay ID Label	A Size **G#3** bay identification label shall be provided for each bay where cables rise up to the GIS If HV cables are not visible over the entire length of run within the HV cable room then an additional Bay Identification Label shall be provided at the point of entry of the cables to the building. [Bay Code] [Bay Name]	**F3 FINGLAS**
Cable Link Box Label	Size G#2 outside Size G#1 inside	

11.5 Examples of Location Dependant Labels for Different GIS Bay Types

11.5.1 GIS Double Busbar Line Bay

The following example is a 220 kV Double Busbar GIS Line Bay with three pole disconnects and earthing switches.

- The Bay Code is F3
- The Bay Name is FINGLAS (taken as an arbitrary example of a possible line bay name)
- Examples are provided of both single pole and three pole circuit breakers.

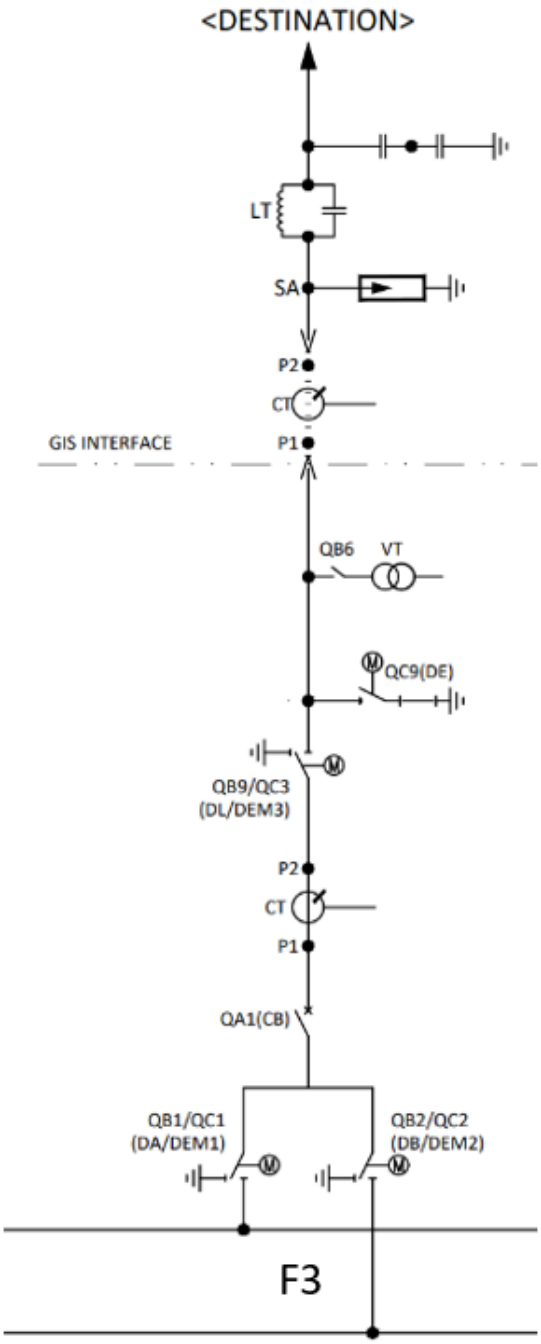


Figure 22 Example 110kV GIS Line Bay SLD

Table 9 110 kV GIS Line Bay Example

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Bay ID labelling shall be provided as per section 11.4.1	F3 FINGLAS

Type	Specification	Examples
Equip. ID	For switchgear: [Bay Code] [Equipment Code]*[Phase]* Equipment ID Labelling as per section 11.4.3. For Voltage Transformers: [Bay Code] [BA][No.] Equipment ID Labelling as per section 11.4.6 For Current Transformers: [Bay Code] BC [No.] *[Phase]* Equipment ID Labelling as per section 11.4.6 For Cable Sealing Ends Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE Equipment ID Labelling as per section 11.4.4.	F3 DA F3 DB F3 DEM1 F3 DEM2 Three pole breaker example: F3 CB Single pole breaker example: F3 CB R, F3 CB S ,F3 CB T F3 BC1 R F3 BC1 S F3 BC1 T F3 DEM3 F3 DL F3 DE F3 QB6 F3 BA1 F3 FINGLAS 220 kV CABLE
Phase	[Phase] Phase Labelling as per section 11.3.1	R, S, T

11.5.2 GIS Double Busbar Customer Transformer Bay

The following example is a 110 kV Double Busbar GIS Customer Transformer Bay with three pole disconnects and earthing switches.

- The Bay Code is H5
- The Bay Name is T121 (taken as an arbitrary example of a possible Customer transformer name)
- Examples are provided of both single pole and three pole circuit breakers.

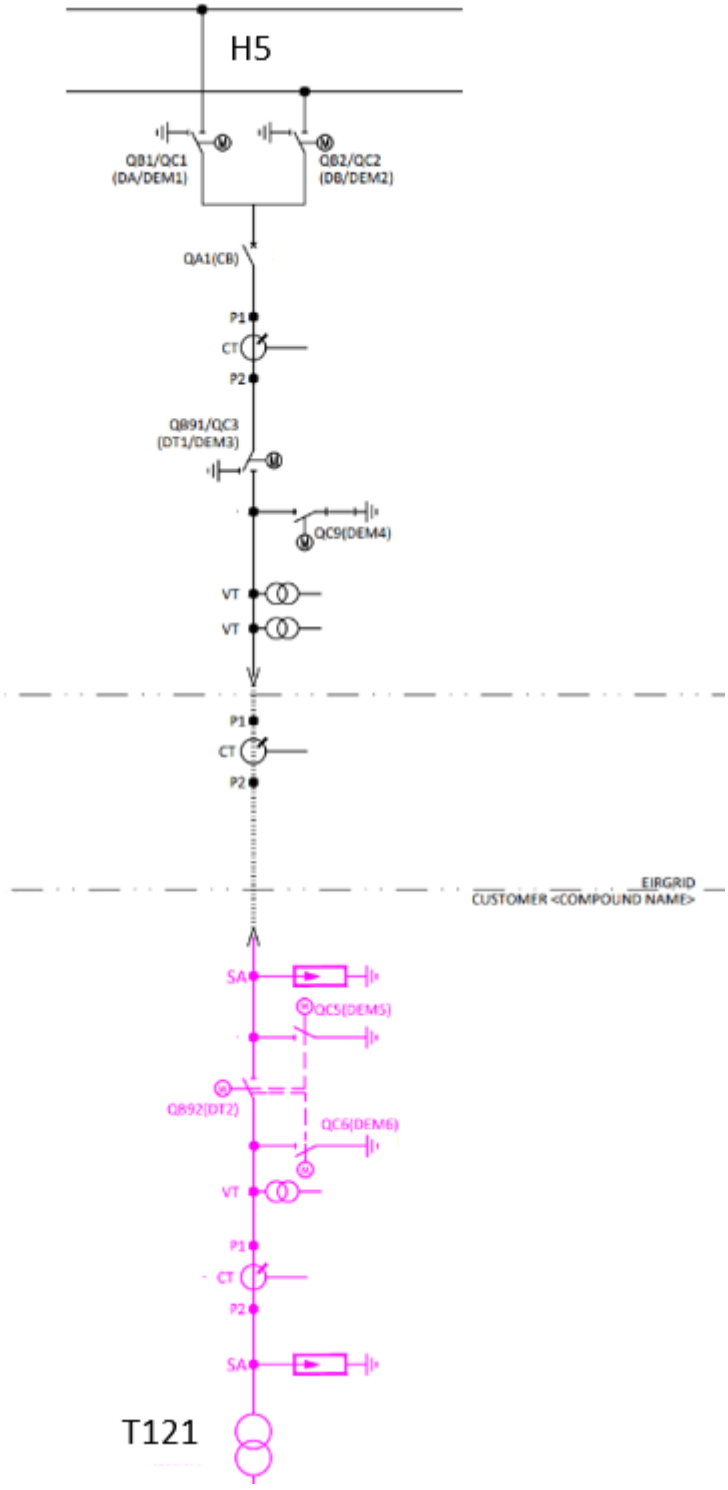


Figure 23 Example 110kV GIS Customer Transformer Bay SLD

Table 10 110 kV GIS Customer Transformer Bay Example

Type	Specification	Examples
Bay ID Label	[Bay Code] [Bay Name] Bay ID labelling shall be provided as per section 11.4.1	H5 T121
Equip. ID Label	For switchgear: [Bay Code] [Equipment Code] Equipment ID Labelling as per section 11.4.3. For Voltage Transformers: [Bay Code] [BA][No.] Equipment ID Labelling as per section 11.4.6 For Current Transformers: [Bay Code] BC [No.] [Phase] Equipment ID Labelling as per section 11.4.6 For Cable Sealing Ends Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE Equipment ID Labelling as per section 11.4.4.	H5 DA, H5 DB H5 DEM1 H5 DEM2 Three pole breaker example: H5 CB Single Pole breaker example: H5 CB R, H5 CB S, H5 CB T H5 BC1 R H5 BC1 S H5 BC1 T H5 DEM3 H5 DT1 H5 DEM4 H5 BA1 R H5 BA1 S H5 BA1 T H5 BA2 R H5 BA2 S H5 BA2 T H5 T121 110 kV CABLE
Phase Label	[Phase] Phase Labelling as per section 11.3.1	R, S, T

11.5.3 GIS Double Busbar Wing Coupler

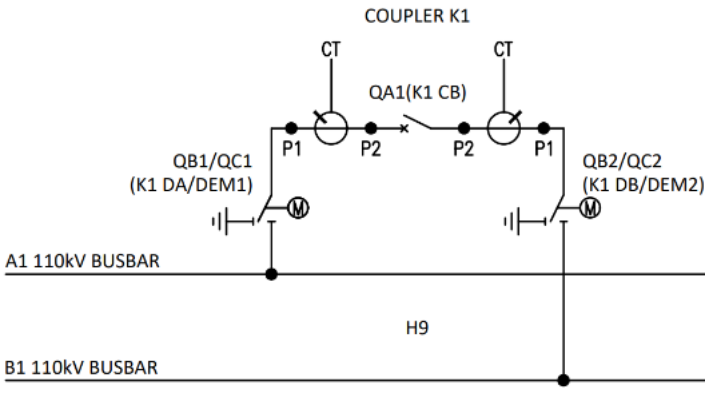
• The Bay Code is H9 • The Bay Name is COUPLER K1 • Examples are provided of both single pole and three pole circuit breakers.	
Figure 24 Example 110kV GIS Wing Coupler Bay SLD	

Table 11 110 kV GIS Wing Coupler Example

Type	Specification	Examples
Bay ID	[Bay Code] [Bay Name] Bay ID labelling shall be provided as per section 11.4.1	H9 COUPLER K1
Equip. ID	<u>For switchgear:</u> [Bay Code] [Equipment Code] Equipment ID Labelling as per section 11.4.3. <u>For Current Transformers:</u> [Bay Code] BC [No.] [Phase] Equipment ID Labelling as per section 11.4.6	H9 K1 DA H9 K1 DEM1 H9 K1 BC1 R H9 K1 BC1 S H9 K1 BC1 T <u>Three pole breaker example:</u> H9 K1 CB <u>Single Pole breaker example:</u> H9 K1 CB R, H9 K1 CB S H9 K1 CB T H9 K1 BC2 R H9 K1 BC2 S H9 K1 BC2 T H9 K1 DB H9 K1 DEM2
Phase Label	[Phase] Labelling of GIS enclosures as per section 11.3.1	R, S, T

11.5.4 GIS Double Busbar Sectionaliser

- The Bay Code is H0A
- The Bay Name is SECTIONALISER SA1-2
- Examples are provided of both single pole and three pole circuit breakers.

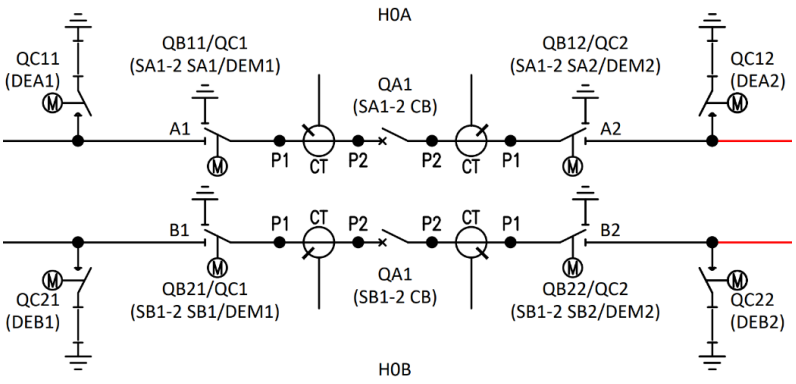


Figure 25 Example 110kV GIS Sectionaliser Bays SLD

Table 12 110 kV GIS Sectionaliser Example

Type	Specification	Examples
Bay ID Label	[Bay Code] [Bay Name] Bay ID labelling shall be provided as per section 11.4.1	H0A SECTIONALISER SA1-2
Equip. ID Label (GIS)	For switchgear: [Bay Code] [Equipment Code] Equipment ID Labelling as per section 11.4.3. For Current Transformers: [Bay Code] BC [No.] [Phase] Equipment ID Labelling as per section 11.4.6	H0A SA1-2 SA1 H0A SA1-2 DEM1 H0A SA1-2 BC1 R H0A SA1-2 BC1 S H0A SA1-2 BC1 T H0A SA1-2 CB H0A SA1-2 BC2 R H0A SA1-2 BC2 S H0A SA1-2 BC2 T H0A SA1-2 DEM2 H0A SA1-2 SA2 Examples of earthing switches mounted in sectionaliser bays: H0A DEA1 H0B DEA1
Phase Label	[Phase] Labelling of GIS enclosures as per section 11.3.1	R, S, T

11.5.5 GIS Cable Room

The following labels shall be provided for each cabled bay in the cable room:

Table 13 110 kV GIS Cable Room Example

Type	Specification	
Bay ID Label	[Bay Code] [Bay Name] Size G#3 Bay ID labelling shall be provided in the cable room where the cables rise up to the GIS as per section 11.4.1	
Cable Link Box Label Equip. ID	Line 1: [Bay Code] [Bay Name] Line 2: [Voltage] CABLE LINK BOX Size G#2 outside the link box. Size G#1 inside the link box. See section 9.4.4	
Equip. ID	For Current Transformers: [Bay Code] BC [No.] [Phase] Equipment ID Labelling as per section 11.4.6	H5 BC2 R H5 BC2 S H5 BC2 T

12 Power Transformer Labels

Table 14 Power Transformer Example

Label Type	Function	Formula & Location	Examples
Bay ID Label	Identify the Transformer Name	[Bay Name] Size **A#3** Two required, one on both sides of tank.	**T2101**
Equip. ID Label	Identifies the name of Equipment	<u>On each trafo mech box:</u> Line 1: [Bay Name] Line 2: MECH BOX Size **A#2** on the outside of each mechanism and marshalling box Size **A#1** on the inside of each mechanism and marshalling box	T2101 MECH BOX
Equip. ID Label	Identifies the name of Equipment	<u>On each tap change mechanism box</u> Line 1: OLTC Line 2: MECH BOX Size **A#2** on the outside of each mechanism and marshalling box Size **A#1** on the inside of each mechanism and marshalling box	OLTC MECH BOX
Phase labels	Phase	[Phase] Size A#3 label high up on transformer under each bushing	On HV Side: R S T LV N HV N On LV Side: R S T

13 Neutral Earthing Switch Labels

Table 15 Neutral Earthing Switch Example

Label Type	Function	Formula & Location	Examples
Bay ID Label	Identify the Bay	Line 1: [Bay Name] Line 2: NES Size A#2 One required on the outside of each mechanism and marshalling box Size A#1 One required on the inside of each mechanism and marshalling box	T2101 NES
Warning Sign	Prevent Unsafe Operation	 Size **A#2** One required on the outside of each mechanism and marshalling box Size **A#1** One required on the inside of each mechanism and marshalling box	

14 Secondary Equipment Labels

This section covers includes

- equipment located within the control building
- equipment mounted on the outside of the substation building
- Naming of outdoor enclosures which are not directly associated with an item of primary equipment e.g. Interface Kiosks.
- Voltage Warning Labels, which are applied to all indoor and outdoor enclosures, including enclosures associated with primary equipment such as mech boxes etc.

Note: this section details additional labels where required when considering protection cabinets (See specification Control and Protection Specification XDS-GFS-06-001)

14.1 Standard Text Sizes for Secondary Equipment Labels

Table 16 Standard Text Heights for Secondary Equipment

Shorthand description	**S#1**	**S#2**
Label Text Height	10 mm	20 mm
Uses	All secondary equipment labels unless otherwise stated, including all voltage warning labels.	External Equipment identification labels for all secondary equipment outside the substation control building Where specified for certain labels

14.2 Illustration of Secondary Label Size

14.2.1 Size S#1

Text specified to have size “S#1” shall have a height from top to bottom of 10 mm.
The following examples provide an illustration of the font size.[36]

M9
H3
PROTECTION
CABINET

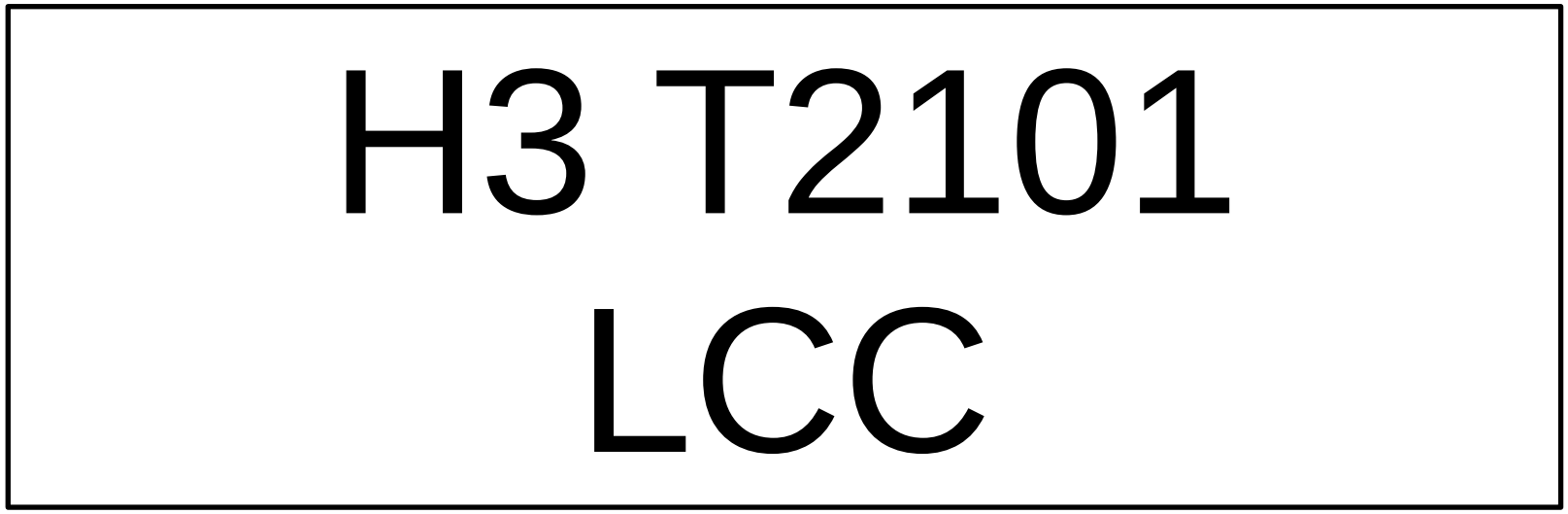
MAX VOLTAGE AT
THIS LOCATION
230 V AC

[36] The font used is Arial 40, which is expected to print to a height of 10 mm on an A4 page.

14.2.2 Size S#2

Text specified to have size “S#2” shall have a height from top to bottom of 20 mm.
The following examples provide an illustration of the font size.[37]

[37] The font used is Arial 40, which is expected to print to a height of 10 mm. on an A4 page.


H3 T2101
LCC

14.3 Secondary Equipment Labelling Requirements

Refer to 17.3 for information relating to the origin and assignment of layout location "M codes", which form part of some of secondary equipment labels.

Unless otherwise indicated, the text sizes for these labels are given in section 14.1.

Table 17 Secondary Equipment Labelling

Type	Specification	Examples[38]
Enclosures	For AC Voltages: Line 1: MAX VOLTAGE AT Line 2:THIS LOCATION Line 3: [VOLTAGE] AC For DC Voltages: Line 1: MAX VOLTAGE AT Line 2:THIS LOCATION Line 3: [VOLTAGE] DC 1 Located inside each door of each low voltage enclosure at a fixed position (not on a hinged or removable cover.	MAX VOLTAGE AT THIS LOCATION 230 V AC MAX VOLTAGE AT THIS LOCATION 220 V DC
Outdoor Local Control Cabinets	Line 1: [Bay Code] [Bay Name] Line 2: LCC 1 Located outside and inside each door	F3 FINGLAS LCC
Interface Kiosks	Line 1: [Bay Code] [Bay Name] Line 2: INTERFACE KIOSK 1 Located outside and inside each door	H3 T131 INTERFACE KIOSK
Customer Interface Cabinet	Line 1: [Bay Code] [Bay Name] Subsequent Lines: CUSTOMER INTERFACE CABINET 1 Located outside and inside each door	H3 T131 CUSTOMER INTERFACE CABINET

[38] The M Code and D Code for labels shall be determined on a project-by-project basis. See 17.3.

Type	Specification	Examples[38]
Bay-Specific Protection Panels	Line 1: [M CODE] Line 2: [BAY CODE] [BAY NAME] Subsequent Lines: PROTECTION CABINET 1 mounted externally on front of cabinet 1 mounted internally[39]	M9 H1 T131 PROTECTION CABINET M9 H1 T131 PROT. CABINET
Non Bay-Specific Protection and Control	Line 1. [M Code] Subsequent Lines: [Enclosure Description] Location: One mounted externally on front of cabinet One mounted internally within cabinet Example Enclosure Descriptions: • SIGNAL INTERPOSING CABINET • MIMIC PANEL • BUSBAR PROTECTION CABINET[40] • SIGNAL CABINET	M1 MIMIC PANEL M9 BUSBAR PROT. CABINET
Batteries	For 220 V Batteries Line 1: [Voltage] V DC Line 2: BATTERY [NUMBER] Located on the wall adjacent to the battery. A single label is sufficient for each 220 V battery if it is mounted on the wall midway between the two racks. For other Batteries Line 1: [Voltage] V DC Line 2: BATTERY Located on wall adjacent to the battery	220 V DC BATTERY 1 220 V DC BATTERY 2 24 V DC BATTERY 48 V DC BATTERY

[39] The abbreviation PROT. Can be used as an abbreviation for the word “PROTECTION”

Type	Specification	Examples[38]
Battery Chargers	Number and Location One mounted externally on front of cabinet One mounted internally within cabinet For 220 V Battery Chargers: For Line 1: [D Code] [Voltage] DC Line 2: Battery [Number] Line 3: Charger [Number] Other Battery Chargers: Line 1: [D Code] [Voltage] DC Line 2: Charger [Number]	D11 220 V DC BATTERY 1 CHARGER 1 D12 220 V DC BATTERY 1 CHARGER 2 D21 220 V DC BATTERY 2 CHARGER 1 D22 220 V DC BATTERY 2 CHARGER 2 D31 24 V DC CHARGER
Battery Supervision Panels	Number and Location One mounted externally on the front of each enclosure One mounted internally within each enclosure Line 1: [M Code] [Voltage] DC Line 2: Battery Supervision	Mxx 220 V DC BATERY SUPERVISION Mxx 24 V DC BATERY SUPERVISION

Type	Specification	Examples[38]
Connection Boxes and Fuse Boxes	Number and Location One mounted externally on the front of each enclosure One mounted internally within each enclosure For 220 V Connection Boxes and Fuse boxes: If needed: Line 1: [D Code] [Voltage] DC Line 2: BATTERY [NUMBER] Line 3: C/O BOX Line 1: [D Code] [Voltage] DC Line 2: BATTERY [NUMBER] Line 3: FUSE BOX For 24 V Connection Boxes and Fusebox's: Line 1: [D Code] [Voltage] DC Line 2: C/O BOX Line 1: [D Code] [Voltage] DC Line 2: FUSE BOX	D10 220 V DC BATTERY 1 C/O BOX D13 220 V DC BATTERY 1 FUSE BOX
DC Distribution Boards	Number and Location One mounted externally on front of cabinet One mounted internally within cabinet Line 1: [D Code] Line 2: [VOLTAGE] DC Subsequent Lines: DISTRIBUTION BOARD [NUMBER]	D1 220 V DC DISTRIBUTION BOARD 1
AC Distribution Boards	Number and Location • One mounted externally on front of cabinet • One mounted internally within cabinet Line 1: [D Code] Line 2: [VOLTAGE] AC Subsequent Lines: DISTRIBUTION BOARD	D3 400 V AC DISTRIBUTION BOARD

Type	Specification	Examples[38]
Earth Bar	Number and Location One Size S#2 label mounted on wall above the main earth bar in the station control room MAIN EARTH BAR	MAIN EARTH BAR
Telecoms Earth Bar	Number and Location One Size S#2 label mounted on wall above the telecoms earth bar in the station control room TELECOMS EARTH BAR	TELECOMS EARTH BAR

15 Labels for Customer Secondary Equipment

The following labels are to be installed at the customer side.

Table 18 Labels for Customer Secondary Equipment

Type	Specification	Examples[41]
ESB Interface Cabinet	Line 1: [Bay Code] [Bay Name] Subsequent Lines: CUSTOMER INTERFACE CABINET	H3 T131 ESB INTERFACE CABINET

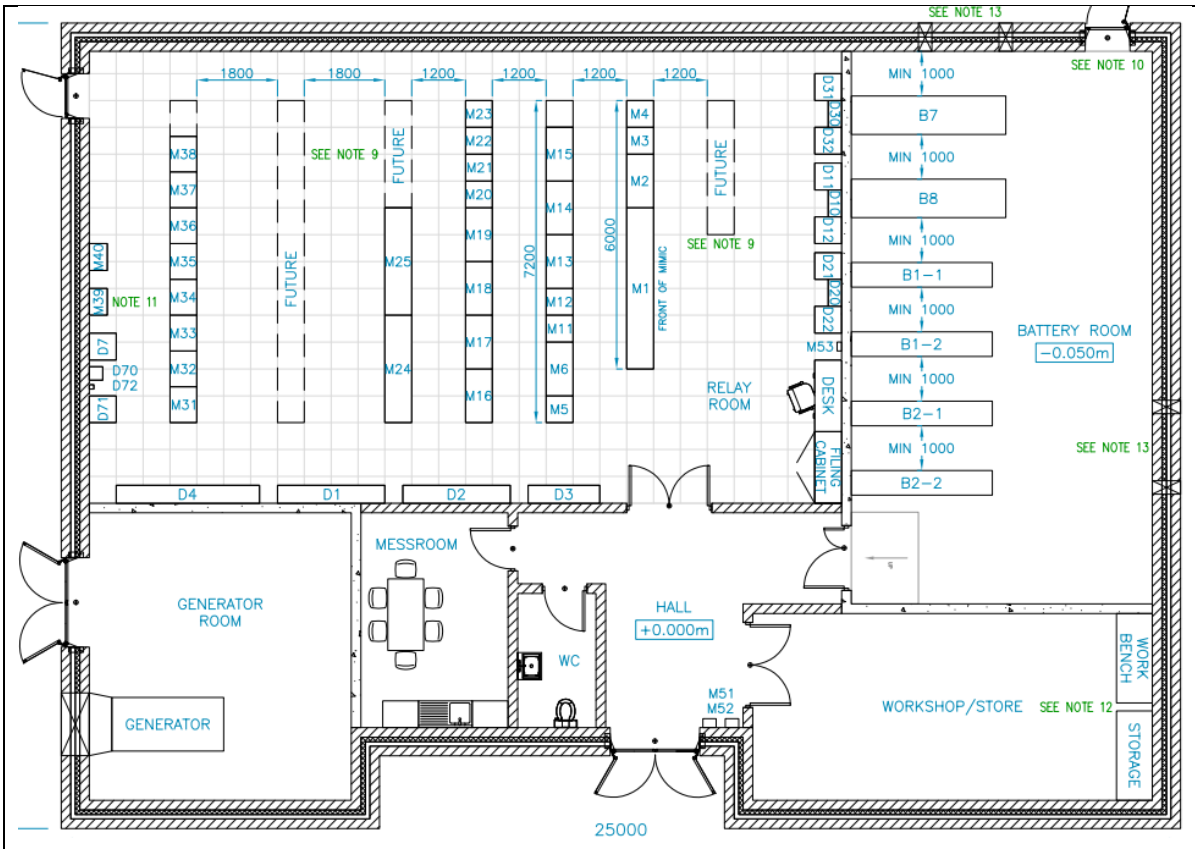


Figure 26 XDN-CR-STND-H-001 Rev 1 indicating the use of Control Room Layout Drawing Codes

15.1 M Codes

"M Codes", consist of the letter M followed by a number, e.g. M1, M2, M3 etc., which indicate the location within the control room of control and protection equipment.

Panels which are required to be labelled in this specification which contain M codes include:

- protection and control cabinets

[41] The M Code and D Code for labels shall be determined on a project-by-project basis. See 17.3.

- mimic panel
- signal interposing cabinets
- battery supervision panels

Mimic Panels shall by convention shall be designated as M1, and shall be located at or close to the main entrance into the control room.

15.2 Adjacent panels with M codes shall have sequential numbering

Where several cabinets are grouped together to provide a single function e.g. a mimic, then all cabinets in that group shall have the same M Code.

The allocation of M codes shall consider the full future extension of the substation. The building layout drawing should indicate the space provision and assignment of M codes for known future panels – e.g. protection panels for future bays etc.

D Codes II

Equipment associated with the Station DC Supplies and Main Station AC Distribution have a layout location code formed by the capital letter D, followed by a single or double digit number e.g. D1, D2, …D9, D10 etc.

The assignment of D Codes is outside the scope of this document.

16 Substation Mimic Labelling

16.1 Introduction

Each item of HV switchgear represented on a substation mimic shall be marked with associated identifying text, i.e. text which is used to identify and refer to that item during maintenance and operations.

Text identifiers shall also be provided to identify the name of the station, as well as each bay name and bay code.

This section specifies requirements for the identifying text to be used on substation mimics. In this regard it supersedes EirGrid Functional Specification XDS-GFS-06-001 "110/220/400kV Control and Protection and Metering".

- For mimics using physical mimic switches, the text shall be printed adjacent to the associated switch:
  - In Mosaic type mimics, the text shall be printed on the adjacent mosaic tiles.
  - In other types of physical mimics, the text is typically printed on a small physical label fixed to panel work adjacent to each switch.
- For software based mimics, the text shall be represented on screen, adjacent to each associated switch icon.

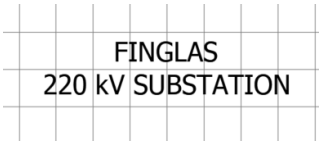
For further details, other than the text to be used, please refer to XDS-GFS-06 Functional Specification 110/220/400 kV Control, Protection and Metering.

16.2 Verification of Mimic Design

The Customer shall submit a drawing of their mimic design to EirGrid for review and approval.

16.3 Mimic Labels

A substation identification label shall be provided for each main station mimic as follows:

Type	Specification	Examples
Main Station Control Point	Line 1: [Substation Name] Line 2: [Voltage] SUBSTATION **50 mm min text height** • Printed in tiles at the top of the mosaic mimic panel (RTU stations) [42] • 1 printed label above SCS HMI (SCS Stations)	 FINGLAS 220 kV SUBSTATION

The purpose of mimic equipment identification labelling is for operators to identify each item of equipment.

The items of Customer switchgear to be shown on the mimic may vary depending on the project, but will typically include Customer switchgear on the high voltage side of the transformer and Customer incomer

[42] This text shall be provided in the form of printing on mosaic tiles, or, alternatively, a label attached to the top of the mosaic.

switchgear on the medium voltage side of the transformer. At a minimum, any device needed to carryout switching or interlocking shall be included on the mimic panel.

Mimic equipment identification labelling shall be as follows:

Type	Specification	Text on Mimic
Mimic Equipment ID	[SLD Equip. Code] 1 Label to be provided per item of switchgear. The location should be adjacent to the equipment. Refer to the example Mimic drawings provided. **Text Height: 10mm**	DE CLARATOWN DE DL CLARATOWN DL etc. See example mimic drawings below. <u>Customer Switchgear</u> See example mimic drawings below
Bay code	[Bay Code] 1 Label to be provided per bay. Location: Refer to the example Mimic drawings provided. **Text Height: 20 mm**	H1 H3
Bay name	[Bay Name] 1 Label to be provided per bay. This does not apply to sectionalisers and couplers Location: Refer to the example Mimic drawings provided. **Text Height: 20 mm**	T131 STEPHENVILLE

The SLD Equip. Code for each item of switchgear is defined in section 6.2.

16.4 Example Mimic Drawings

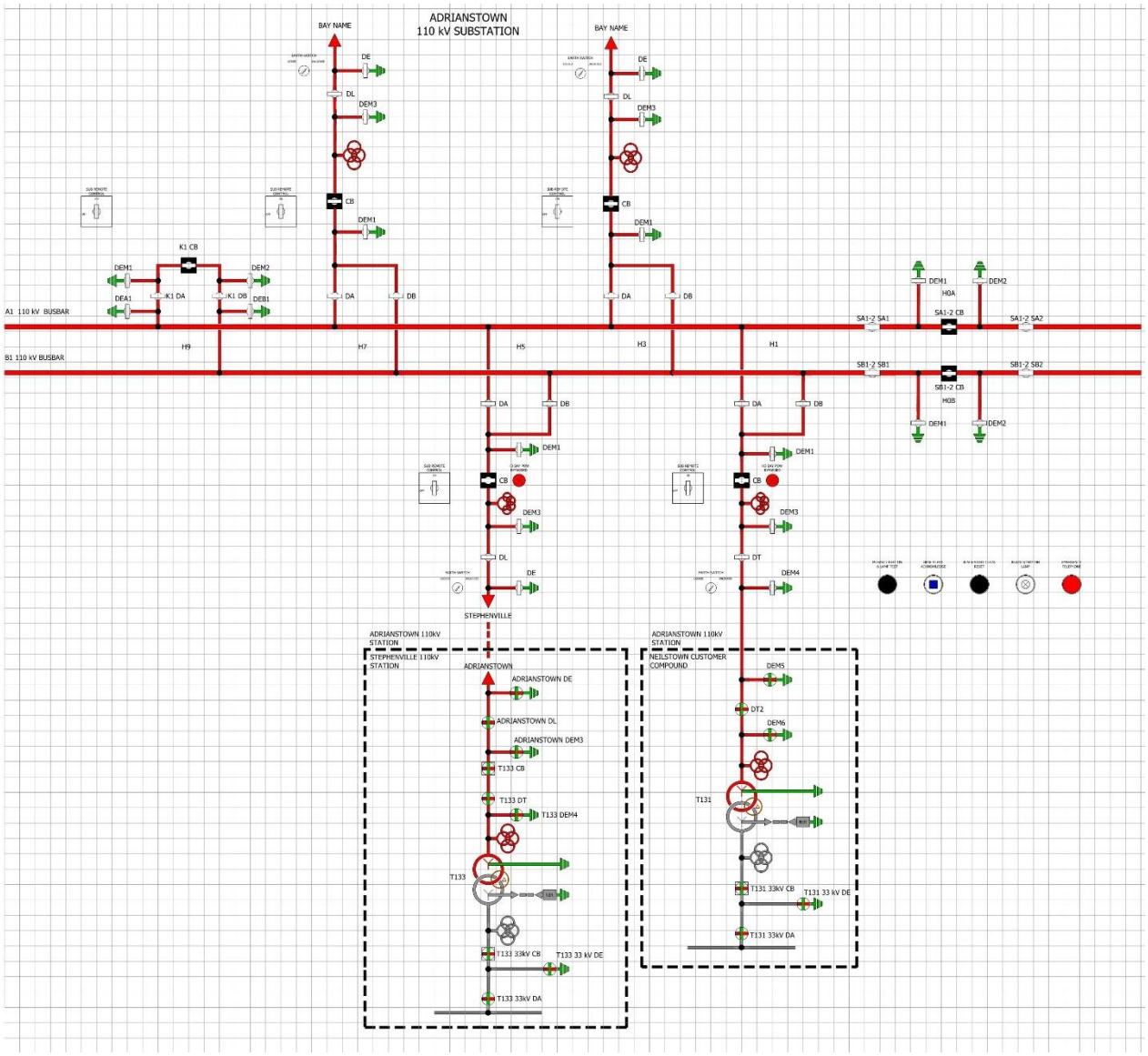


Figure 27 Example Mimic for 110 kV AIS Double Busbar Half C Type Station

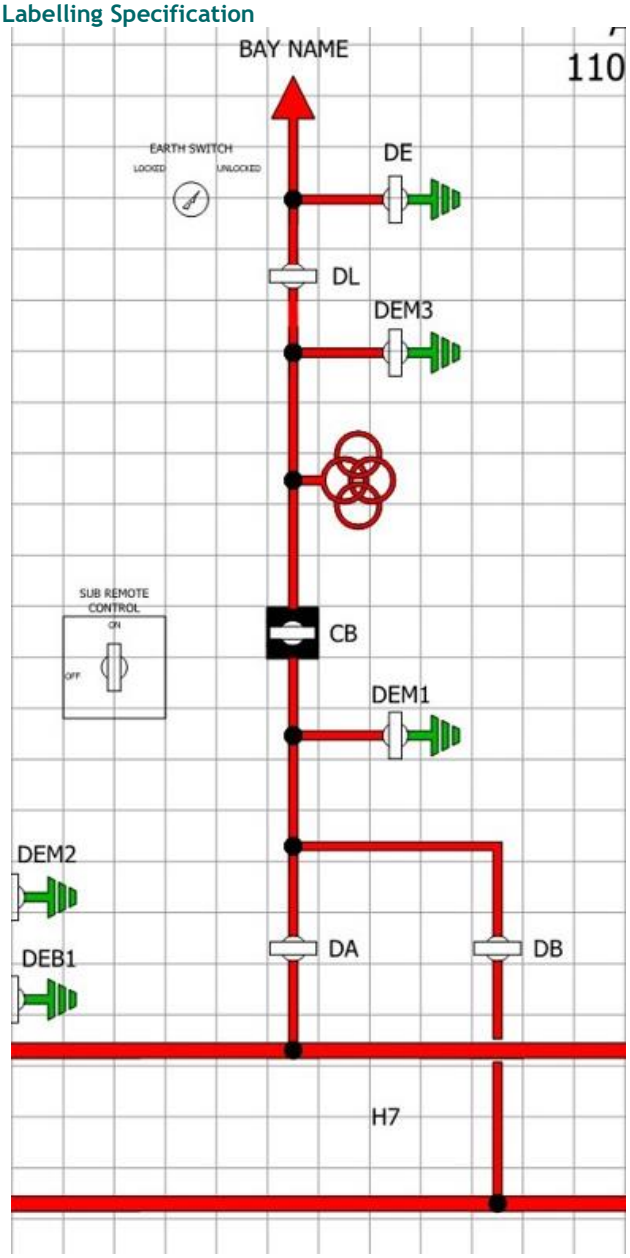


Figure 28 Example Mimic for 110 kV AIS Double Busbar Line Bay

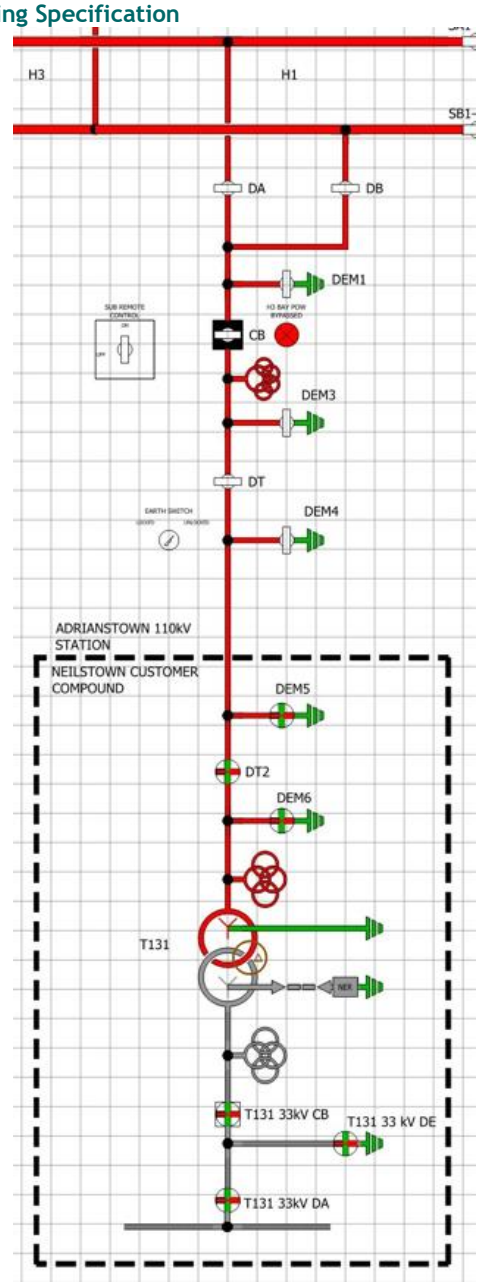


Figure 29 Example Mimic for 110 kV AIS Double Busbar Customer Transformer Bay

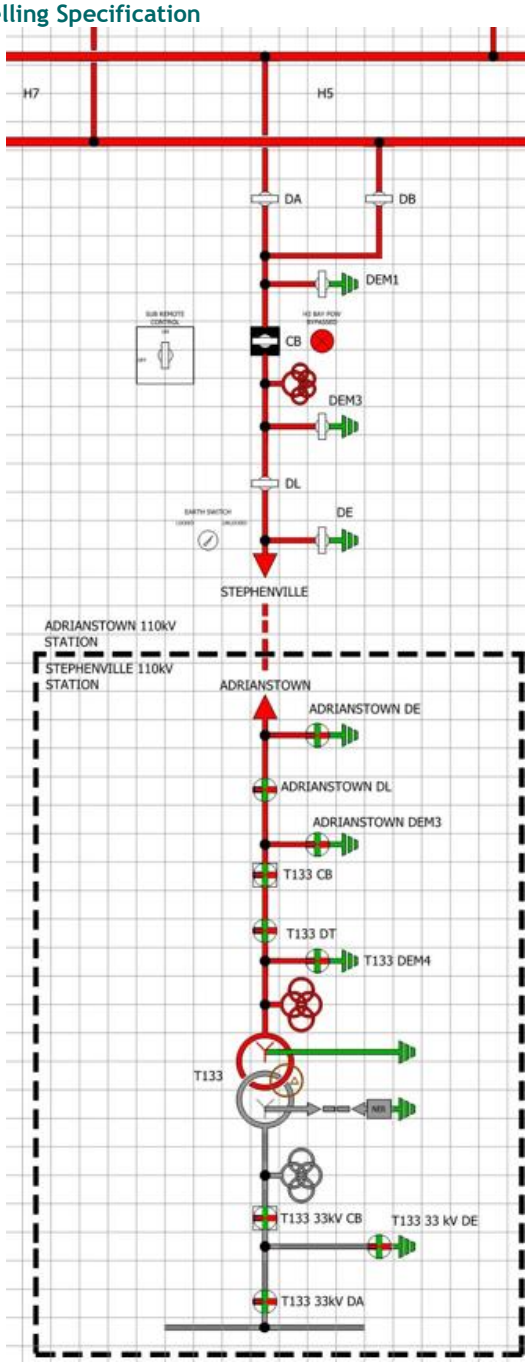


Figure 30 Example Mimic for 110 kV AIS Double Busbar Customer Line Bay

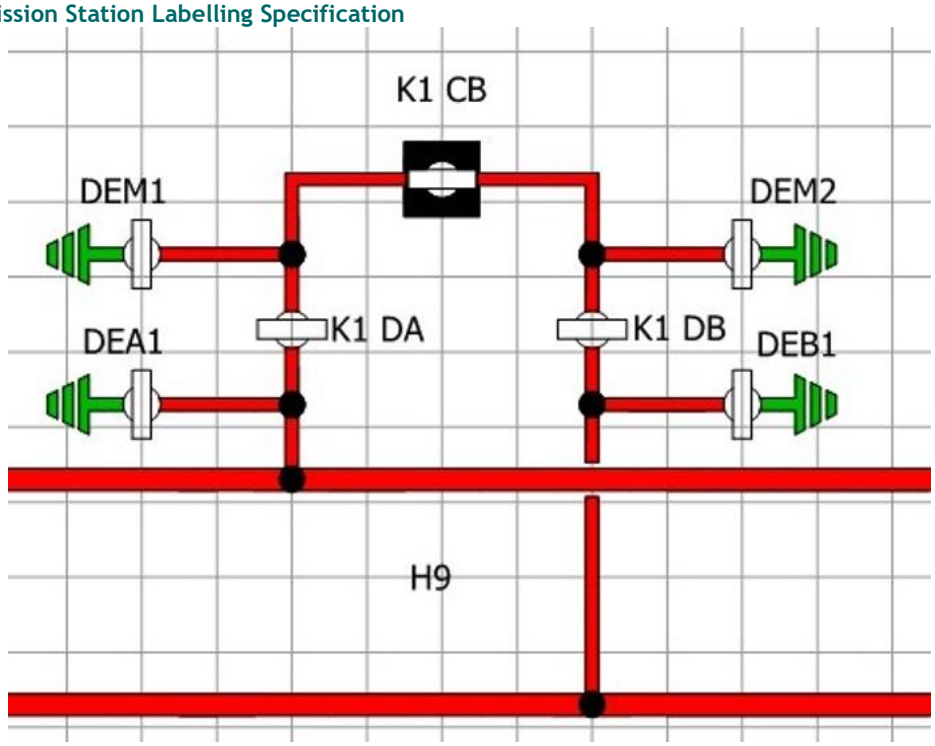


Figure 31 Example Mimic for 110 kV AIS Double Busbar Wing Coupler Bay

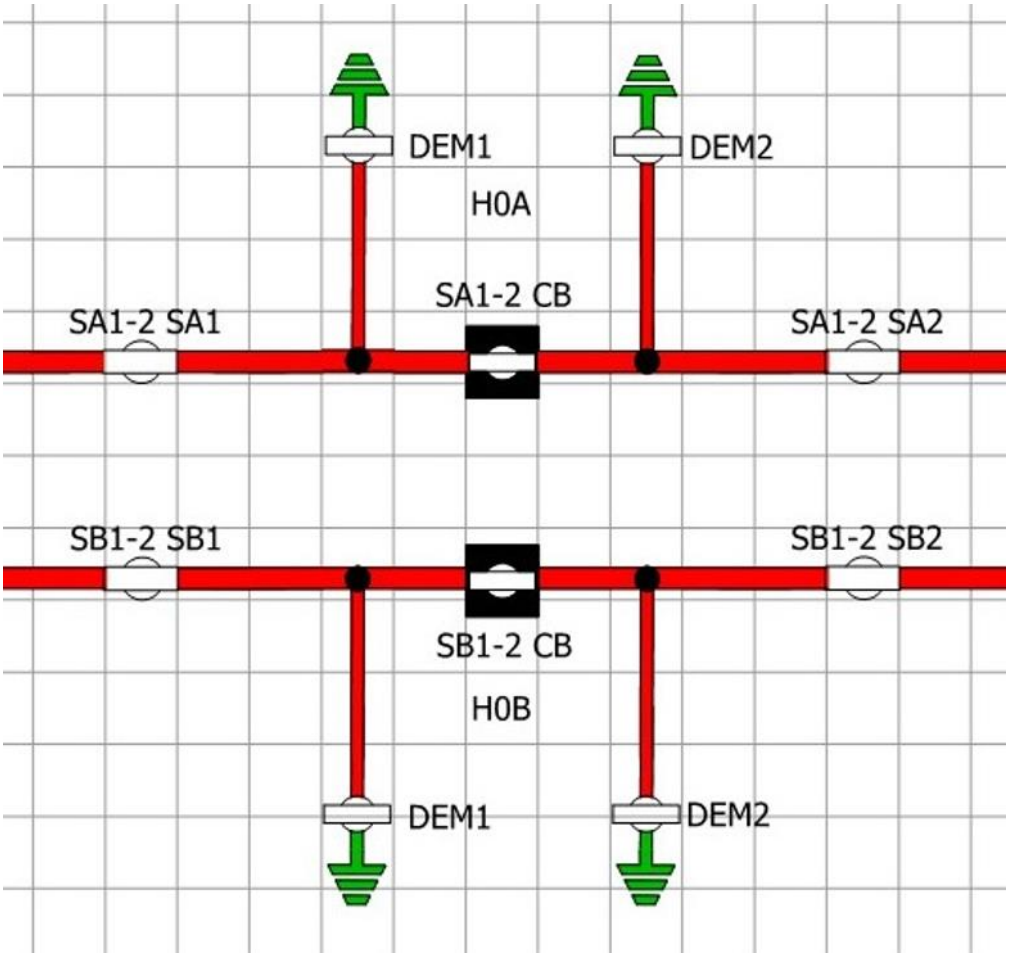


Figure 32 Example Mimic for 110 kV AIS Sectionaliser Bays

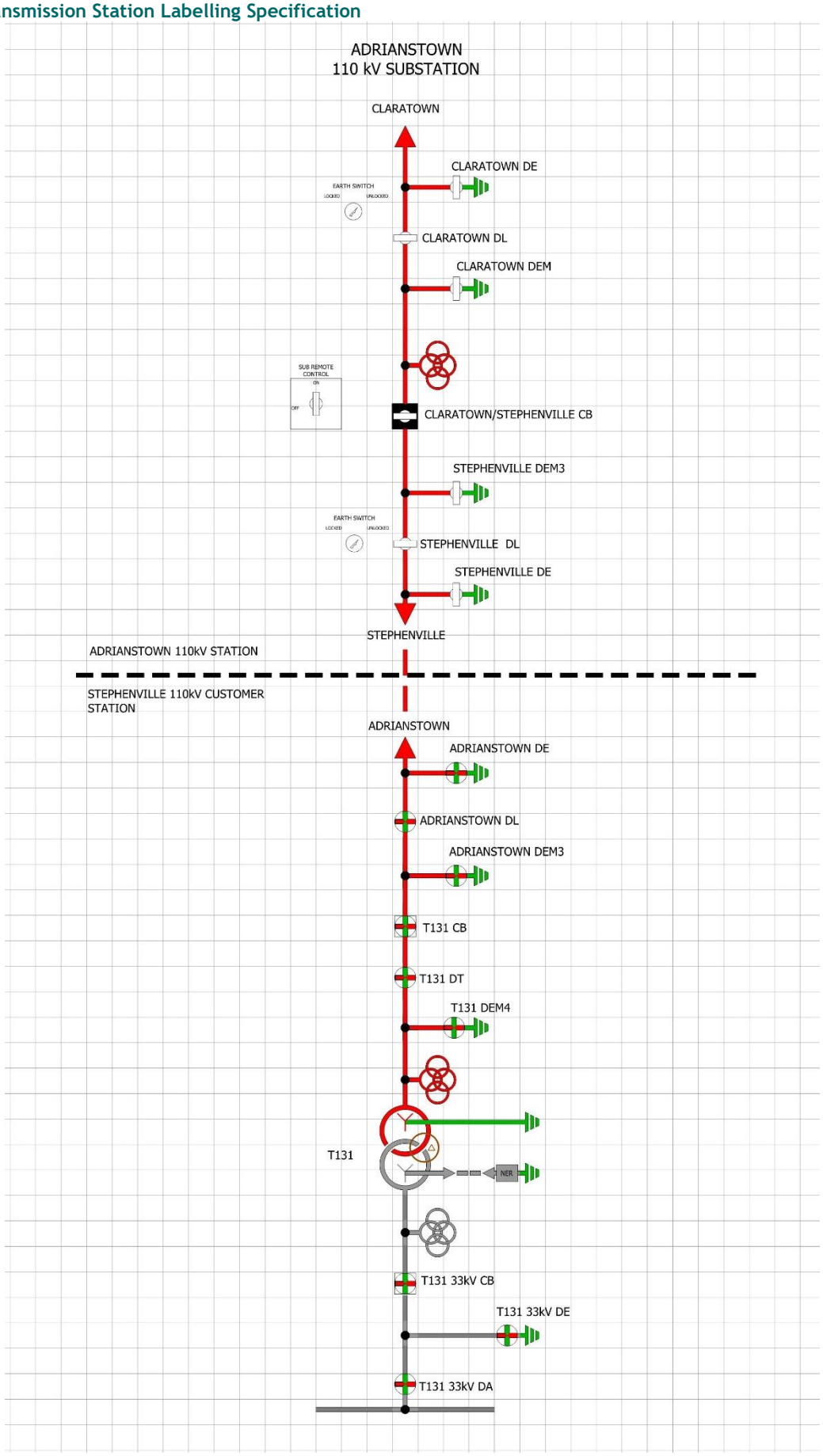


Figure 33 Example Mimic for AIS 110 kV Tailed back-to-back connected Customer Station

17 Labels for Customer Primary Equipment

Applicable Customer switchgear in bays connecting to the transmission system shall be labelled according to the requirements below[43].

The Customer shall submit the proposed labelling of the applicable switchgear to EirGrid for review and approval as part of their overall proposed station labelling.

17.1 Applicable Customer Switchgear

The items of Customer switchgear to be labelled may vary depending on the project, but will typically include Customer switchgear on the high voltage side of the transformer and Customer incomer switchgear on the medium voltage side of the transformer. At a minimum, any device needed to carryout switching or interlocking shall be included on the primary equipment.

17.2 Customer Switchgear

Type	Specification	Examples
Equip. ID	Where the Customer does not have a circuit breaker on the high voltage side of the breaker: Customer equipment shall be labelled as follows, with the equipment code taken from the EirGrid SLD[44]. [SLD Equipment Code]	High Voltage: DEM5 DT2 DEM6 (if provided) Low Voltage: T131 33 kV CB T131 33 kV DE T131 33 kV DA

[43] Customers may name and label their equipment according to their own equipment naming convention, but where this is the case must provide a second label in accordance with this document for applicable Customer switchgear.

[44] This is the same text included on the Mimic. Local equipment labels on Customer switchgear should not include the bay code.

Type	Specification	Examples
	Where the Customer switchgear includes a circuit breaker on the high voltage side of the breaker: Customer equipment shall be labelled as follows, with the equipment code taken from the EirGrid SLD[44]. [SLD Equip. Code]	High Voltage: ADRIANSTOWN DE [45] ADRIANSTOWN DL ADRIANSTOWN DEM3 (if provided) T131 CB MV CB T131 DT T131 DEM4 Low Voltage: T131 33 kV CB T131 33 kV DE T131 33 kV DA

In each case a Size A#2 equipment identification label shall be provided on the outside of the mechanism box or MV incomer cubicle of the Customer Switchgear.

[45] In this example Adrianstown is a fictitious ESB Substation name. If there is more than one HV Customer Transformer bay in the same ESB station, an additional digit will be included in the SLD Equip. Code, e.g. Adrianstown 1 DL, Adrianstown 2 DL etc. This additional digit will match the final digit of the associated transformer.

17.3 Control Building Layout Codes

The labelling of some equipment within the control building is required to include a building layout code which indicates the location of the equipment in the building layout drawing.

Figure 34 Example of Control Room Layout Drawing below is an excerpt from XDN-CR-STND-H-001 and illustrates the use of different types of building layout codes for an indicative AIS control room layout.

Two types of building location code are required to appear in secondary equipment labels:

- "M Codes" consisting of the letter M followed by a single or double digit
- "D Codes" consisting of the letter D followed by a single or double digit

The Customer shall submit a copy of their proposed building layout for approval indicating the proposed use of these codes.

EirGrid to review the layout and approve the proposed Building Layout Codes as part of the review of the overall substation layout.

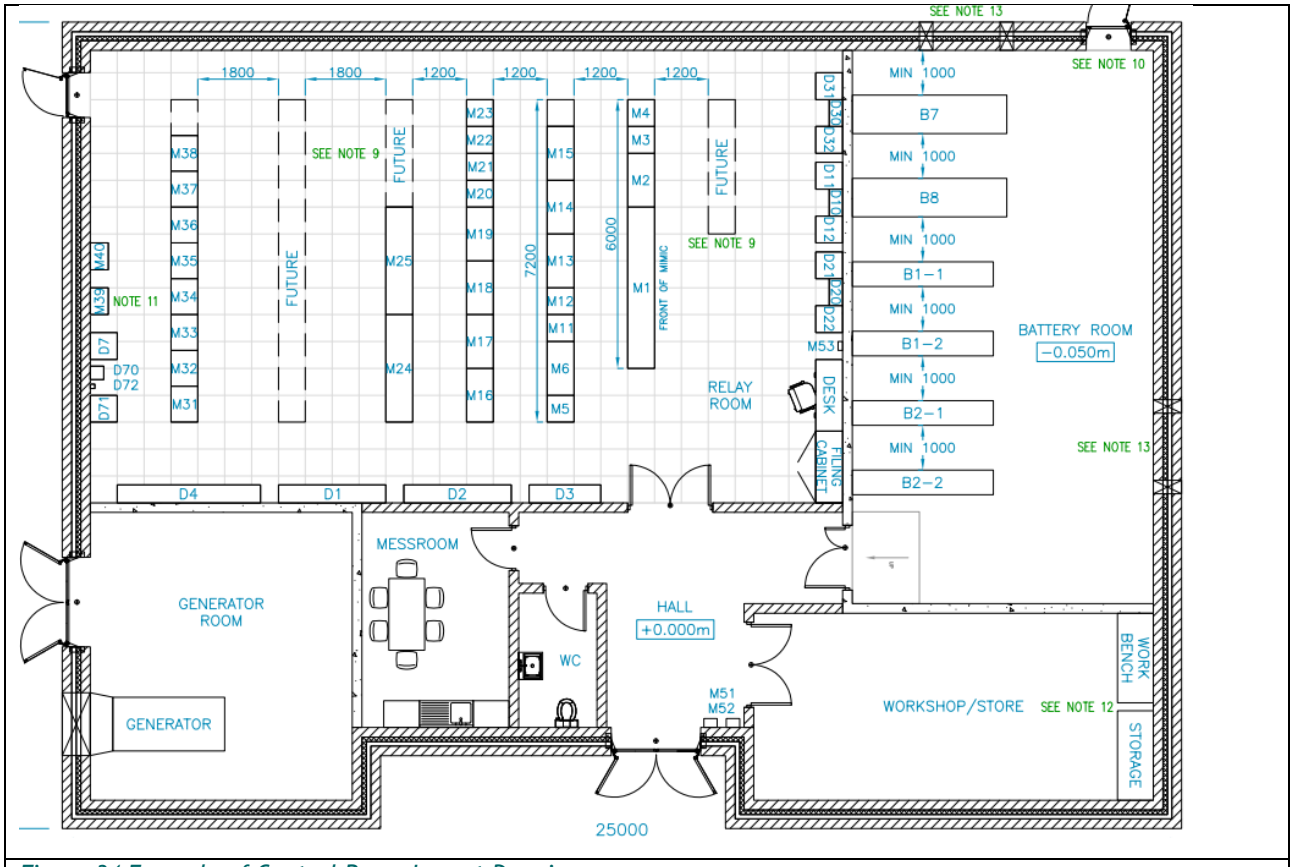


Figure 34 Example of Control Room Layout Drawing

17.4 M Codes

"M Codes", consist of the letter M followed by a number, e.g. M1, M2, M3 etc., which indicate the location within the control room of control and protection equipment.

Panels which are required to be labelled in this specification which contain M codes include:

- protection and control cabinets
- mimic panel
- signal interposing cabinets
- battery supervision panels

Mimic Panels shall by convention shall be designated as M1, and shall be located at or close to the main entrance into the control room.

Adjacent panels with M codes shall have sequential numbering.

Where several cabinets are grouped together to provide a single function e.g. a mimic, then all cabinets in that group shall have the same M Code.

The allocation of M codes shall consider the full future extension of the substation. The building layout drawing should indicate the space provision and assignment of M codes for known future panels – e.g. protection panels for future bays etc.

17.5 D Codes

Equipment associated with the Station DC Supplies and Main Station AC Distribution have a layout location code formed by the capital letter D, followed by a single or double digit number e.g. D1, D2, …D9, D10 etc.

The assignment of D Codes is outside the scope of this document.