

TITLE : TECHNICAL SPECIFICATION FOR BOUGHT-OUT ITEMS FOR ECI
ITEM : START STOP PUSH BUTTON STATION
PROJECT : BHEL STANDARD SPECIFICATION.

NAME		DESIGNATION	SIGNATURE	DATE
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ISSUED BY

EDC-ECI

RECORDS OF REVISION:

REVISION NUMBER 01	Drawing Revised (Page-07) As marked	04.12.2014
REVISION NUMBER 00	INITIAL RELEASE	19-11-2007

1.0.0 **SCOPE OF SUPPLY:**

The scope of supply of SSPB includes Manufacturing, Inspection, Testing, Packing & Delivery of SSPB as per the Specification.

2.0.0 **APPLICATION:**

This push button station is used to start and stop motors locally.

3.0.0 **APPLICABLE STANDARDS:**

IS:13947,6005,694.

4.0.0 **GENERAL REQUIREMENTS:**

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|-----|------------------------------------|--|
| 4.1 | Enclosure material | : 2mm cold rolled Sheet Steel. |
| 4.2 | Pretreatment of Sheet Steel | : Seven Tank process as per IS:6005. |
| 4.3 | Painting | : EPOXY BASED, Light Grey shade 631 of IS:5 in Semi Glossy finish (both inside & outside). |
| 4.4 | General Construction | : As per drawings, forming part of this Specification Internal & External dimension shall be suitably selected by Vendor taking care of sufficient space for termination. The dimension indicated in our drawing attached are minimum requirement which must be complied with. |
| 4.5 | Enclosure Protection | : IP 55 as per IS 13947. |
| 4.6 | Terminal Block Type | : ELMEX CST-2.5 or equivalent type of BHEL approved make mounted on DIN RAIL.
Qty : 8 nos. |
| 4.7 | Terminal Block Insulating material | : Melamine. |
| 4.8 | Terminal Block Voltage Grade | : 650 V (minimum). |
| 4.9 | Door Gasketing | : Neoprene Gasket of 6 mm thick of Shore hardness 20 & density 0.4 gm/cc shall be provided on all mating surfaces. |

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| 4.10 | START PUSH BUTTON | : 1 no. Green colour 22.5/30.5 mm dia, Flush type, SPRING RETURN PUSH BUTTON. with 2 NO + 2 NC contacts. |
| 4.11 | STOP PUSH BUTTON | : 1 no. Red colour 22.5/30.5 mm dia, Mushroom Head type PUSH BUTTON of press to lock & key to release with 2 NO + 2 NC contacts. Key shall be removable in lock & normal position. |
| 4.12 | Contact rating of PUSH BUTTON Elements | : 5 A, 240 V, AC. |
| 4.13 | Cable Gland Type & Qty | : 1 nos. Nickel plated brass double compression Gland with dummy plugs to suit 4CX2.5 SQ.MM Copper Ar. cable. Type CBW-02 of COMET or EQUIVALENT MAKE. |
| 4.14 | PUSH BUTTON Elements | : 2 NO + NC contacts each for Start P.B & Stop P.B shall be provided & shall be mounted separately on the base of the box.
1 NO + 1 NC elements of each P.B shall be wired to Terminal Block. as shown in the drawing using ATC lugs & 2.5 SQ.MM stranded, flexible copper wire. |
| 4.15 | Internal wiring Diagram | : A copy of the wiring diagram shall be pasted in the inside door of the box. |
| 4.16 | Cable Lugs | : a) Annealed tinned solderless crimping type copper lugs shall be provided for all the terminals on both sides of T.B. Lug type shall be Dowell's CP-19 PIN type (insulated) or Equivalent type of other BHEL approved make.
: b) Annealed tinned solderless crimping type copper lugs of Rectangular Tongue fork type (insulated) of BHEL approved make shall be provided for termination on the PUSH BUTTON Elements. |

4.17. MAKE OF COMPONENTS

- : a) Push Button with elements.
(i) SIEMENS
(ii) L & T
(iii) CANDS
(iv) TEKNIC
(v) CONTROL & SWITCH GEAR
(vi) VAISHNAV

b) TERMINAL BLOCK:

- (i) ELMEX
(ii) COMET
(iii) CONTROL & SWITCH GEAR
(iv) CONNECTWELL
(v) TOSHA
(vi) ESSEN

c) CABLE GLANDS:

- (i) COMET
(ii) BRACCO
(iii) CONTROL & SWITCH GEAR
(iv) SUNIL & CO
(v) CMI



d) CABLE LUGS:

- (i) DOWELLS
(ii) JAINSONS
(iii) LOTUS
(iv) 3D



4.18 Front door / cover

- : Hinged type as per drawing. Minimum opening of 135 deg.

4.19 Earthing Terminal

- : 2 nos. Earthing bolts & nuts with ROSE COURTNEY washer along with earth Symbol to be provided at opposite points on the Outside of the box.

4.20 Mounting Bolts

- : 4 nos. of M8 X 25 mm Bolt with Nut & 2 nos. washers for each bolt to be provided.

4.21 Name Plate

: Non Rusting 2 Ply Lamicoid make
Name plate with suitable inscription
shall be provided with a clear transparent
sheet as follows:-

SUPPLIER NAME

START/ STOP
PUSH BUTTON STATION
FOR ESP – BAP/RANIPET

5.0.0 **INFORMATIONS TO BE FURNISHED ON PLACEMENT OF ORDER:**

GA Drawing indicating dimensions and bill of materials for different components for
Approval.

6.0.0 **PACKING:**

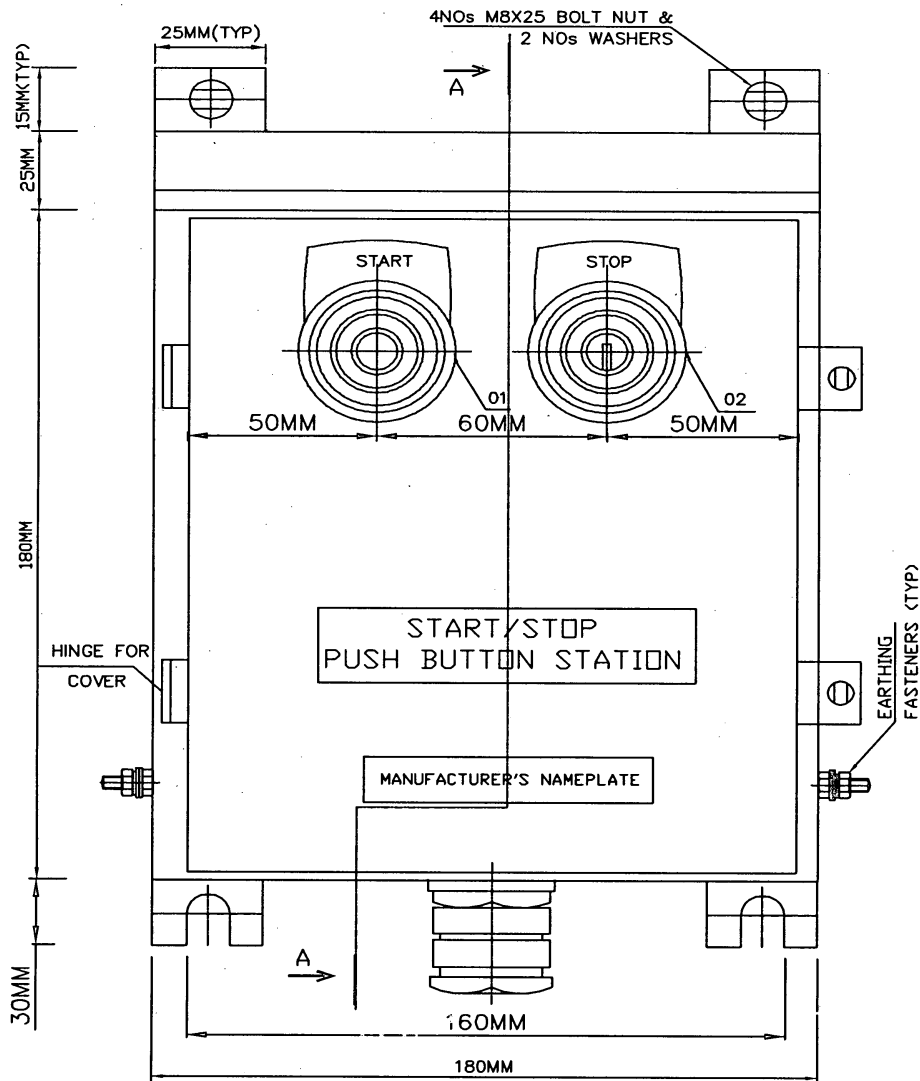
Each Start – Stop Push Button station shall be fully wrapped in a polythene cover to avoid water
Entry and then packed in a cardboard box. Finally all such boxes shall be packed in a
Wooden crate.

NOTE:

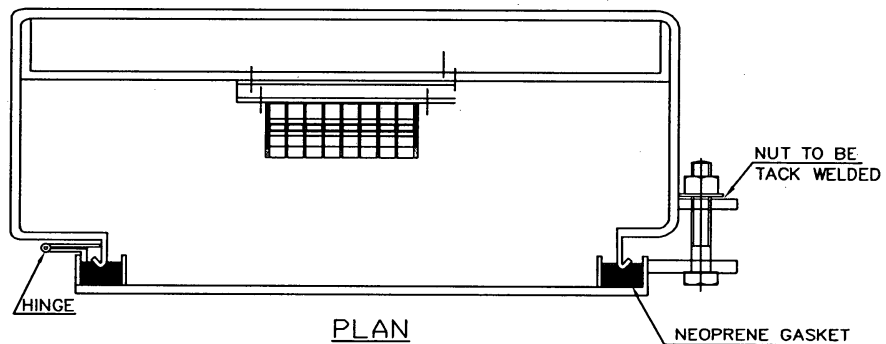
The sample shall be approved by BHEL before bulk manufacturing. (in case of new vendor &
first time supply).

7.0.0 **IP 55 TEST:**

IP 55 test as per IS : 13947 shall be conducted as Type test in the presence of BHEL
representative for first time supply to BHEL.



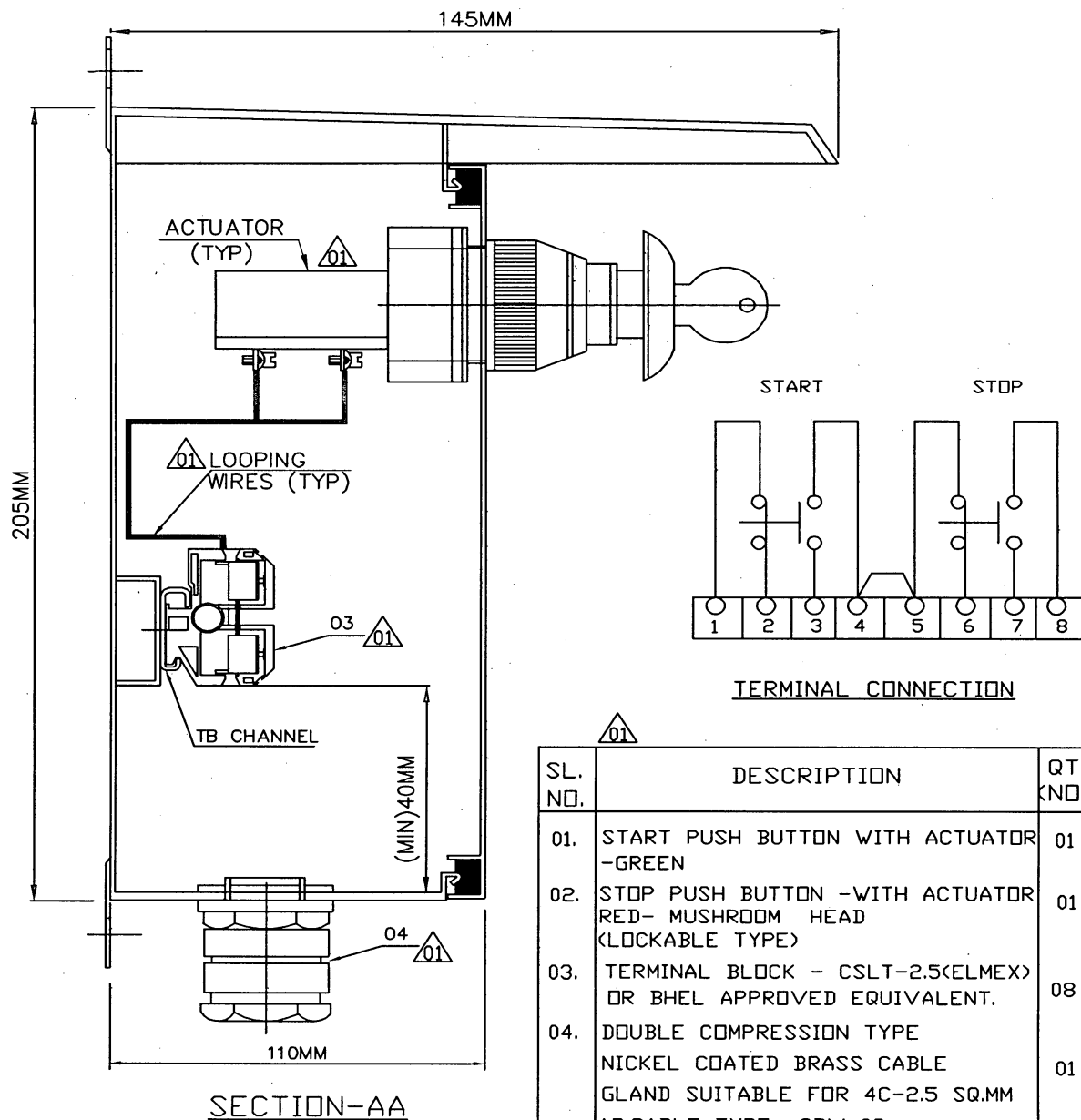
ELEVATION



PLAN

NOTE 1

THE UN-TOLERANCED DIMENSIONS SHALL BE AS PER IS-2102.



SL. NO.	DESCRIPTION	QTY (NOs)
01.	START PUSH BUTTON WITH ACTUATOR -GREEN	01
02.	STOP PUSH BUTTON -WITH ACTUATOR RED- MUSHROOM HEAD (LOCKABLE TYPE)	01
03.	TERMINAL BLOCK - CSLT-2.5(ELMEX) OR BHEL APPROVED EQUIVALENT.	08
04.	DOUBLE COMPRESSION TYPE NICKEL COATED BRASS CABLE GLAND SUITABLE FOR 4C-2.5 SQ.MM AR.CABLE TYPE -CBW 02.	01
05.	ATC CRIMP TYPE LUG(FLAT PIN TYPE) FOR OUTGOING CABLES TYPE CPI-19.	10