



MECHANICAL INTERLOCKS & KEY

1.0 Objective:

This specifications governs the requirements for stocking of MECHANICAL INTERLOCKS, BOLT LOCK & KEY INCLUDING KEY EXCHANGE BOX for use in Switchgear panels.

The basic lock consisting of a main spindle with die-cast head in a brass housing. A key with inscription corresponding to the inscription on the die-cast head of spindle can be inserted in the housing to rotate the spindle in the clockwise or anticlockwise direction thro' 45, 60, 85, 90 or 360 degree.

2.0 Application:

The locks can be used in different mechanical interlocking schemes to ensure a definite sequence of operation of one or more industrial or substations equipment. (Power plants / Distribution).

3.0 Compliance with national standards :

There is no Indian Standard covering this type of material.

4.0 Technical specifications :

- Material : Brass casting, AA - 19912
- Finish : Nickel plated with Chrome finish.
: Thickness of plating > 5 microns.
- Direction of rotation. : Clock-wise from the front of lock.
(from free to Trap key)
- Angle of rotation of key : 90 degree unless otherwise stated.
- Dimensions : As per Figures 1 & 2.

Notes to supplier:

- (i) **SUPPLIER TO ESSENTIALLY SUBMIT ANNEXURE-II(CHECK LIST) DULY FILLED IN THE FORMAT ENCLOSED, ALONGWITH THE OFFER. OFFER WITHOUT DULY FILLED ANNEXURE-II MAY NOT BE EVALUATED.**
- (ii) Supplier to manufacture all the items in line with the figures 1 & 2 given alongwith this standard.
- (iii) Separate drawing approval on vendor's drawing against each project is not required.
- (iv) Annexure-I duly filled, signed with seal, in the format specified at sht.no.3, with inscription details for one particular project shall be considered as final document for engraving.

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REV.	02	PRINTS TO :-		APPROVED –		
ALTD.	Manisha	SCR- PROD	1	D.K.DIKSHIT		
APPD.	SC	SCR- MM	1	PREPARED	ISSUED	DATE
DATE.	25.03.10	SWE-CONT	1	MANISHA	A.P.SINGH	26.12.06
		SCR- PLG	1	HADA		
		SWE- PDG	1			



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INSCRIPTIONS :

- : As per Annexure-I at sht.no.03.
- : Letters Height/Depth 3 mm.
- : FOR ONE PARTICULAR PROJECT, IT SHALL NOT BE POSSIBLE TO INSERT KEYS HAVING ONE INSCRIPTION, ON THE LOCKS HAVING OTHER INSCRIPTION.
- : FOR ONE PARTICULAR PROJECT, KEYS OF THE SAME INSCRIPTION SHALL BE COMMON FOR LOOSE LOCKS & LOCKS FITTED ON KEY EXCHANGE BOX.

Table-1

Item No.	Item Description & drawing reference	Stock code	App. annual requirement
1	Castle Lock - Fig.1	BP9049113010	600
2	Key for above lock - Fig.1	BP9049113028	250
3	Key exchange box with 2 front locks with out keys & one control lock with key-Fig.2	BP9049113044	50
4	Key exchange box with 3 front locks with out keys & one control lock with key-Fig.2	BP9049113052	50
5	Key exchange box with 4 front locks with out keys & one control lock with key-Fig.2	BP9049113060	25
6	Key exchange box with 5 front locks with out keys & one control lock with key-Fig.2	BP9049121969	05
7	Key exchange box with 6 front locks with out keys & one control lock with key-Fig.2	BP9049121977	05

5.0 Packing:

MECHANICAL INTERLOCKS, BOLT LOCK, KEY & KEY EXCHANGE BOX shall be properly packed to avoid any damage during transport and handling.

To ensure easy traceability & avoid mixing of different items, all the locks & key pertaining to one particular board shall be packed together in one single packet. All the packets pertaining to one project shall be kept together to form one package and each package shall be marked with the following information :

MECHANICAL INTERLOCKS & KEY : SG12640

Project Name :

BHEL Order No. :

W.O. No. :

Itemwise quantity (Item 1,2,3,4,5,6 & 7) :

Batch/Lot No. :

Manufacturer's Name and TYPE :

Month and Year of Manufacture :

6.0 Acceptance norms:

All the items are to be accepted based on the following:

- Verification of inscription marked on the MECHANICAL INTERLOCKS, KEYS & KEY EXCHANGE BOXES with Annexure-I.
- Smooth & Free movement in operation.
- Visual inspection for defect free surface & smooth finish.
- Key exchange box & their labels as per Annexure-I.
- Dimensional checks as per figures 1 & 2 of SG12640.
- Availability of check list duly filled in the enclosed format (Annexure-II).

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FORMAT FOR GIVING INSCRIPTION

(TO BE FILLED BY THE CONTRACT ENGINEERS FOR THEIR RESPECTIVE PROJECTS)

ANNEXURE - I TO P.O.- {indicate P.O.no.}
MECHANICAL INTERLOCK INSCRIPTION

W.O. No. :
Project / Customer Name :

Notes : Specify the following -

- (i) Angle of rotation, **if other than 90 degree** :
- (ii) Direction of rotation of key from free to Trapped position, looking from front of lock, **if it is other than Clockwise** :
- (iii) Shaft extension, **if it is other than 20mm** :
- (iv) Special application, **if any** :
- (v) Material of castle lock, **if it is other than brass** :

Mechanical interlocks, Keys & Key Exchange Boxes having technical details as per **SG12640 Rev.01** and inscription as below -

- Mechanical interlocks & keys

Sl.no.	INSCRIPTION	LOCKS (QTY.)	KEY(QTY.)
		Item 1 of table-1	Item 2 of table-1
1			
2			

BOARD NAME :

- Key exchange box (Items 3 or 4 or 5 or 6 or 7 of table-1)

Sl.no.	DESCRIPTION	INSCRIPTION	LOCKS(QTY.)	KEY(QTY.)
1	CONTROL LOCK			
2	FRONT LOCK			
3	FRONT LOCK			

LABEL : KEY EXCHANGE BOX - FOR BUS EARTHING IN {module name(s)} (Board name)
Eg. **KEY EXCHANGE BOX - FOR BUS EARTHING IN IF1 OR TIE1 (11kV BD.-1BA)**

- Total qty. of Item-1 i.e Locks** :
- Total qty. of Item-2 i.e Keys (Keys of Key Ex. Box not to be added)** :
- Total qty. of Item-3 i.e Key Ex. Box with 2 front locks without key & one control lock with key** :
- Total qty. of Item-4 i.e Key Ex. Box with 3 front locks... - do-** :
- Total qty. of Item-5 i.e Key Ex. Box with 4 front locks... - do-** :
- Total qty. of Item-6 i.e Key Ex. Box with 5 front locks... - do-** :
- Total qty. of Item-7 i.e Key Ex. Box with 6 front locks... - do-** :

Note : Supplier shall give unembossed locks, keys & key exchange boxes in absence of above inscription details from BHEL. However, items shall be taken back by supplier as and when these details are furnished and supply embossed items within 10 days of issue. This activity will be coordinated by planning.

Sign & Seal / Date
Name

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FORMAT FOR CHECK LIST

(TO BE FILLED & SUBMITTED BY SUPPLIERS ALONGWITH THE OFFERS)

ANNEXURE-II

Sl. No.	Parameter	BHEL's Requirement	Offered (to be filled by suppliers)
1.	Material	Brass casting	
2.	Finish	Nickel plated with Chrome finish	
3.	Thickness of plating	> 5 microns	
4.	Direction of rotation	Clock-wise from the front of lock	
5.	Angle of rotation of key	90 degree	
6.	Dimensions	As per Figures 1 & 2	
7.	Height/Depth of inscription letters	Minimum 3mm	
8.	For one particular project :		
	i) Whether it is possible to insert keys having one inscription, on the locks having other inscription	No	
	ii) Whether keys of the same inscription are common for loose locks & locks fitted on key exchange box.	Yes	
9.	All the locks & key pertaining to one particular board will be packed together in one single packet	Yes	
10.	All the packets pertaining to one project will be kept together to form one package	Yes	

Sign & Seal / Date
Name

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