

Crew Cab Components

Spring Loaded Toggle Switches

Rotary Switches

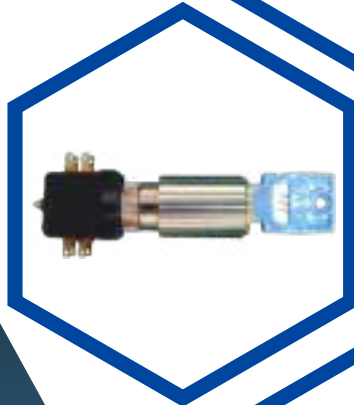
Emergency Stop Switch

Cab Activating Switch

Key Switch Simulation

Foot Switch

Illuminated Lamp & Push button



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Spring loaded Toggle Switches

General:

These spring loaded toggle switches are used to switch ON / OFF various control circuits by the train crew members from start to stop of the locomotive. The construction of these switches has been made very rugged & sturdy due to its frequent use by the crew members all the time, hence a very reliable and high mechanical life of these switches plays an important role while designing.

Auxiliary contacts mounted behind the toggle switches are also designed with its high durability and long life.

Product Portfolio:

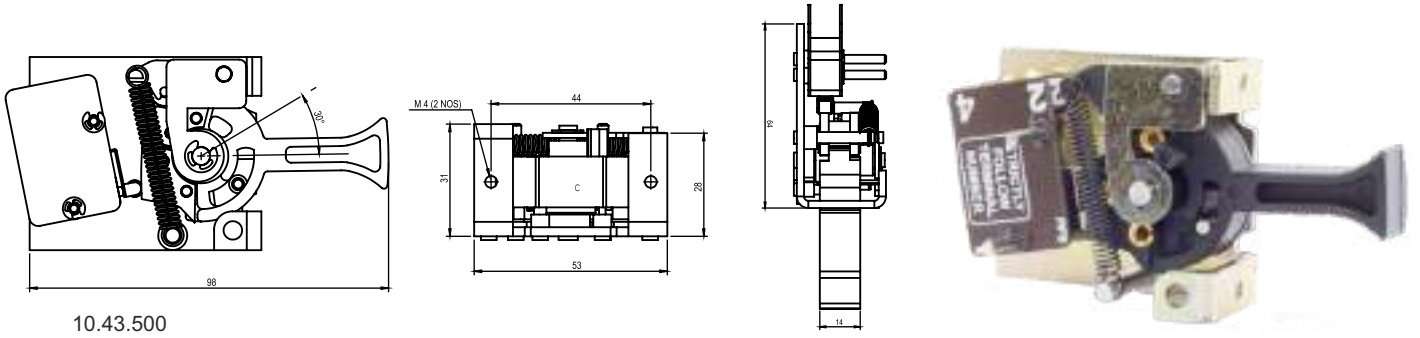
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Banking Operation	10.43.500	SBM-F/SU/9/R20/S840 & Modified type no. FSU9R20R20	HBTB585604R1201	2	153	29700024
	Max. Tractive Effort Limitation				2	151.1	
	Front & Tail Marker Light				4	316.11 & 316.12	
	Driver's Cabin Light & instrument lighting				4	324 & 324.1	
	Driver's desk & Asst. Driver's desk illumination				4	324.21 & 324.22	
	Hand Lamp				2	337	
B	Pantograph & VCB	10.42.500	SBM-F/TOU/21/22/R20	HBTB585604R3001	4	129 & 134	29700036
	Hotel Load				2	169.1	
C	Head Light	10.40.500	SBM-PS/7/9/S800A20 & Modified Type No. PS/7/9/S800A24	3EHP585743R2204	2	316	29700048
D	Head Light Intensity	10.41.500	SBM-PS/0/3/S800A20 & Modified Type No. PS/0/3/S800A24	3EHP585743R2103	2	317	29700050
E	Compressor	10.44.500	SBM-F/TUSO/21/22/R20	HBTB585604R2001	2	172	29700061

Technical specification:

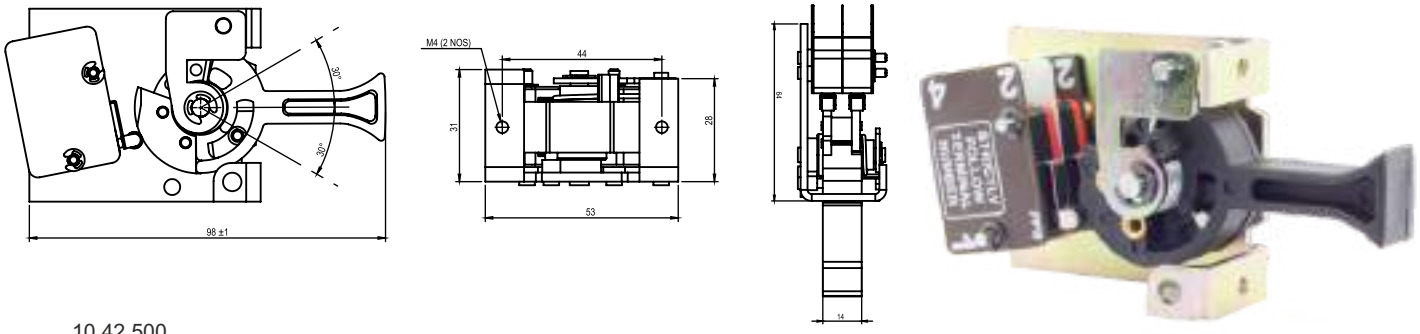
Contact	N/O
Shock	500m Sec
Rating	6A, 250 V
Mounting	Any Position
Operating Switch Position	3 Position
	UP(+30°) - Locked
	Center (0°) - Notched
	Down (-30°) - Notched
Connection	Flat Tab 6.3 mm
Weight	160 g
Protection Clan:	1 Poo



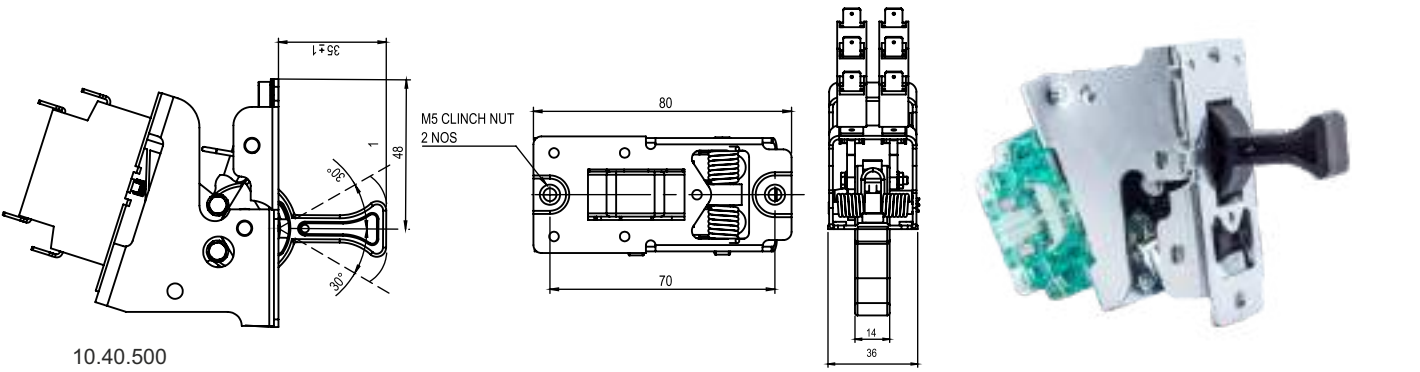
Dimentional Drawing



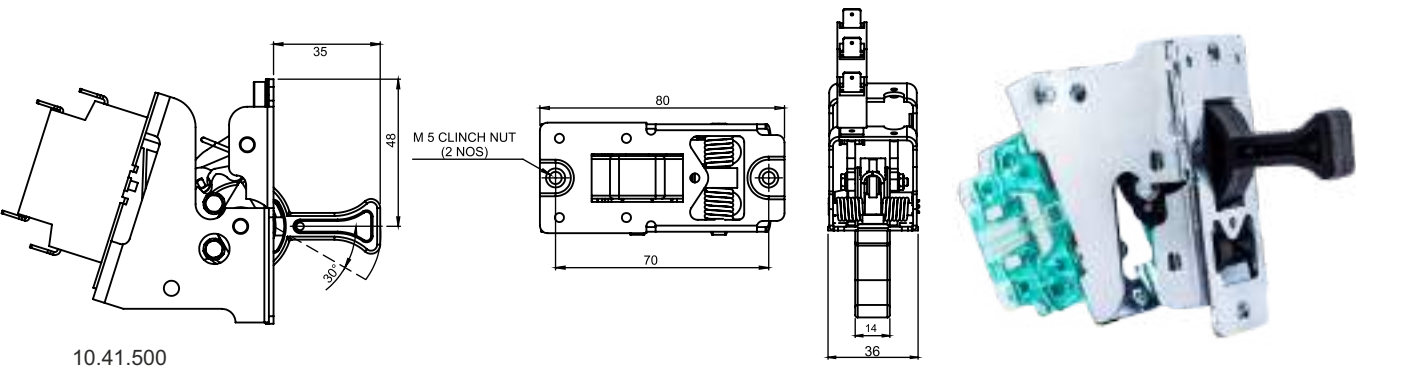
10.43.500



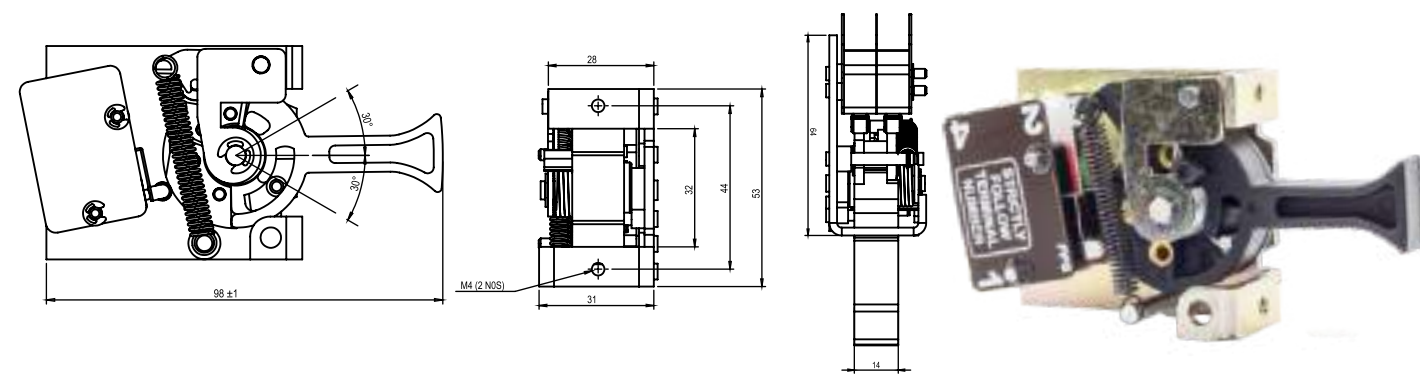
10.42.500



10.40.500



10.41.500



10.44.500



Rotary Switch

Failure Mode Operation

General:

These Rotary Switch are used to switch ON/OFF various circuits by the train crew members during the running of the Locomotive. As these switches are used very frequently, so these have been designed very ruggedly for its long life with very high durability.

Various types of Rotary Switches with their respective functions have been listed below.

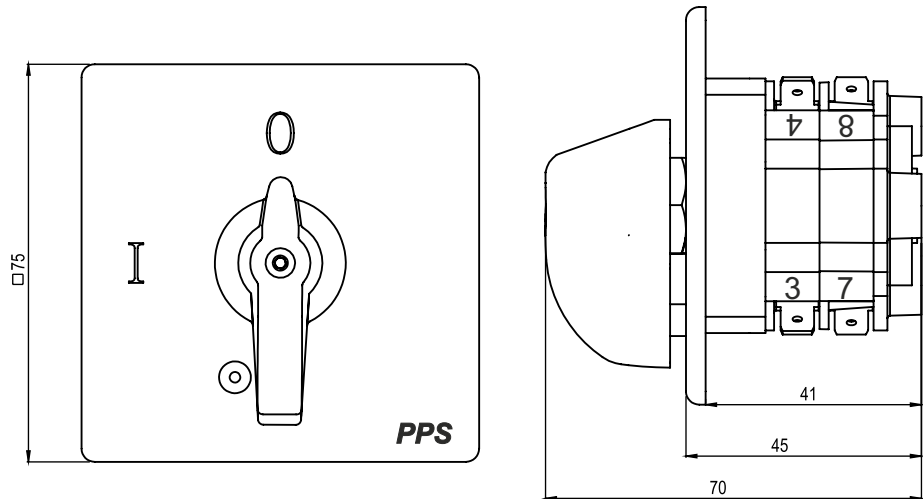
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Failure Mode Operation	13.56.500	SPR-P-03-R-06A, 500V	HBTB585580R1032	1	152	29700292

Technical Specification :

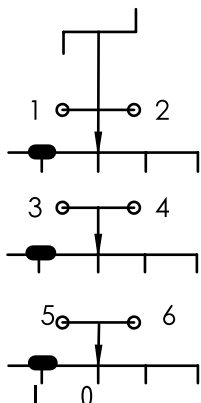
Type	P-3-R
Nominal Current / Volt (AC)	25 A / 500 V AC
Nominal Current / Volt (DC)	15 A / 36 V DC
No. of Contact	3
No. of Elements	2
Connection	Faston 6.3 x 0.8
Earting	Screw Connection
Circuit Angle	90°
Switch Position	O - 1
Remarks	Front Plate Black



Dimensional Drawing :



Aux Contact Position :



POSITION		0	1	2	3	4	5	
CONNECTION	CONTACT	SWITCH POSITION						CONNECTION
		0	1	2	3	4	5	
1	1	●						2
3	2	●						4
5	3	●						6

Rotary Switch

Bogie Cut Out



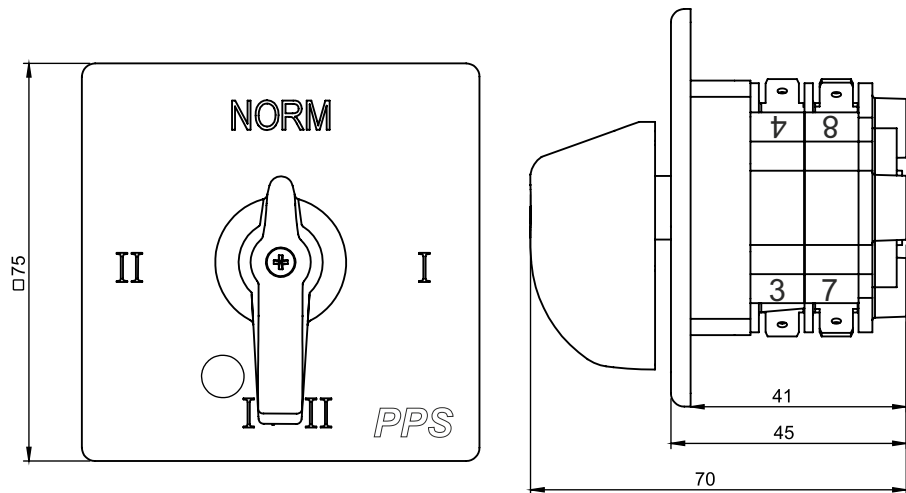
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Bogie Cut Out	13.58.500	SPR-P-02-R-06A, 500V	HBTB585580R1022	1	154	29700309

Technical Specification :

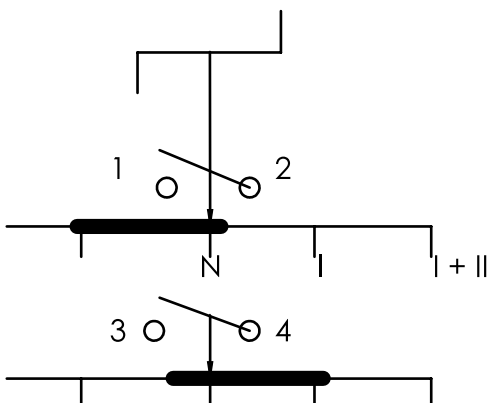
Type	P-2-R
Nominal Current / Volt (AC)	25 A / 500 V AC
Nominal Current / Volt (DC)	15 A / 36 V DC
No. of Contact	2
No. of Elements	2
Connection	Faston 6.3 x 0.8
Earting	Screw Connection
Circuit Angle	90°
Switch Position	Norm-I-I+II-II
Remarks	Front Plate Black



Dimensional Drawing :



Aux Contact Position :



		N	I	I+II	II			
POSITION		●	●	●	●			
CONNECTION	CONTACT	SWITCH POSITION						CONNECTION
		0	1	2	3	4	5	
1	1		●	●			2	
3	2			●	●		4	



Rotary Switch

Vigilance device cut off

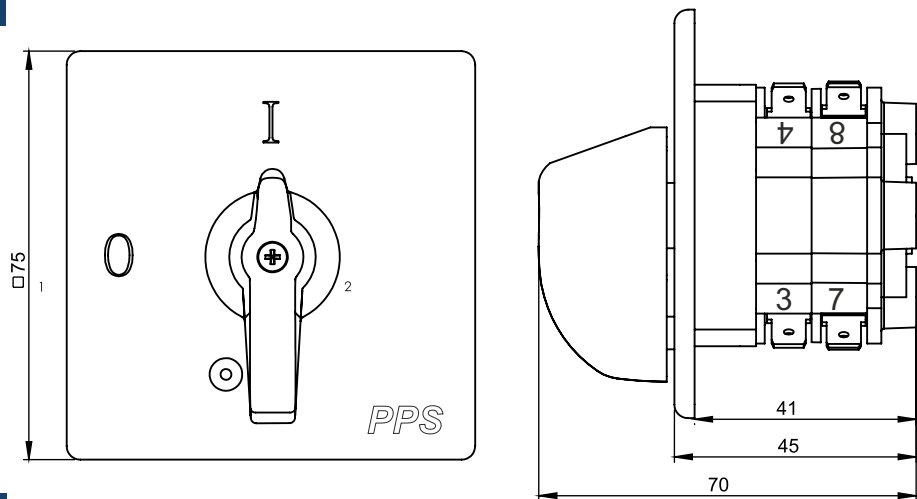
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Vigilance device cut off	13.57.500	SPR-P-04-R-06A, 500V	HBTB585580R0034	2	160 & 237.1	29700310

Technical Specification :

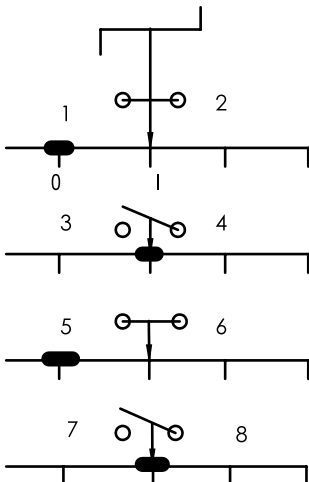
Type	P-4-R
Nominal Current / Volt (AC)	25 A / 500 V AC
Nominal Current / Volt (DC)	15 A / 36 V DC
No. of Contact	4
No. of Elements	2
Connection	Faston 6.3 x 0.8
Earting	Screw Connection
Circuit Angle	90°
Switch Position	O - I
Remarks	Front Plate Black



Dimensional Drawing :



Aux Contact Position :



		I						O						
POSITION														
CONNECTION	CONTACT	SWITCH POSITION										CONNECTION		
		0	1	2	3	4	5	6	7	8				
1	1	●												2
3	2					●								4
5	3	●												6
7	4						●							8

Rotary Switch

Cab Heater



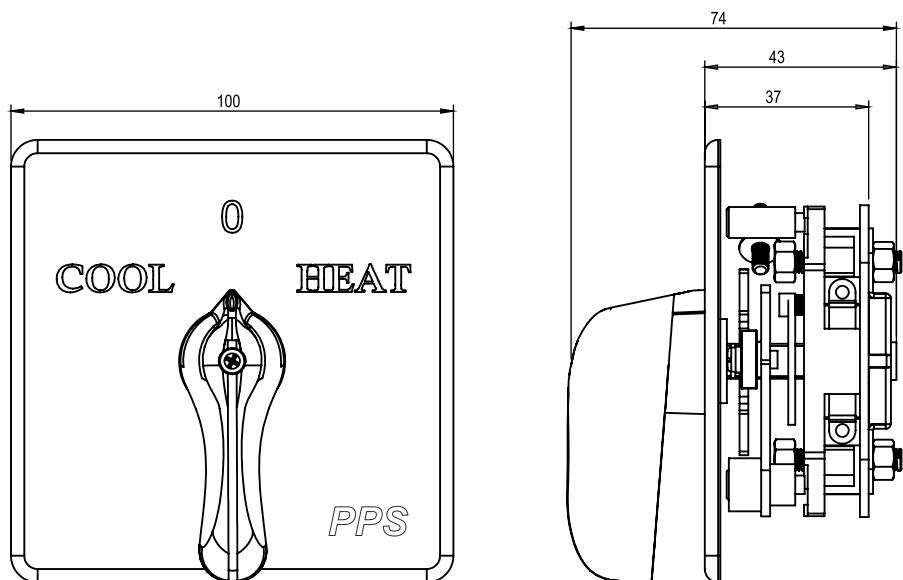
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Cab Heater	10.36.500	SPR-KBP-02-R-25A	HBTB585580R5022	2	65.6	29700012

Technical Specification :

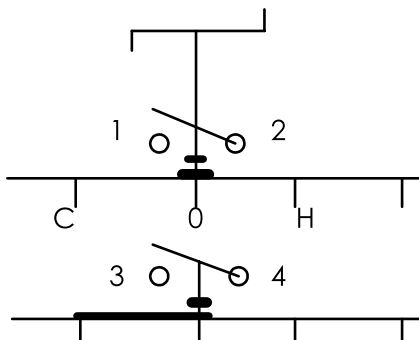
Type	SPR-KbP-02-R
Nominal Current / Volt (AC)	25 A / 500 V AC
Nominal Current / Volt (DC)	15 A / 36 V DC
No. of Contact	2
No. of Elements	1
Connection	Screw M3
Earting	Screw M4
Switch Angle	2x45°
Size of Plate	100 x 100
Inspection of Plate	Cool-0-Heat



Dimensional Drawing :



Aux Contact Position :



		0 HEAT			COOL						
POSITION											
CONNECTION	CONTACT	SWITCH POSITION									
		0	1	2	3	4	5	6	7	8	CONNECTION
1	1		●						●		2
3	2		●								4



Foot Spring Loaded Switch

General:

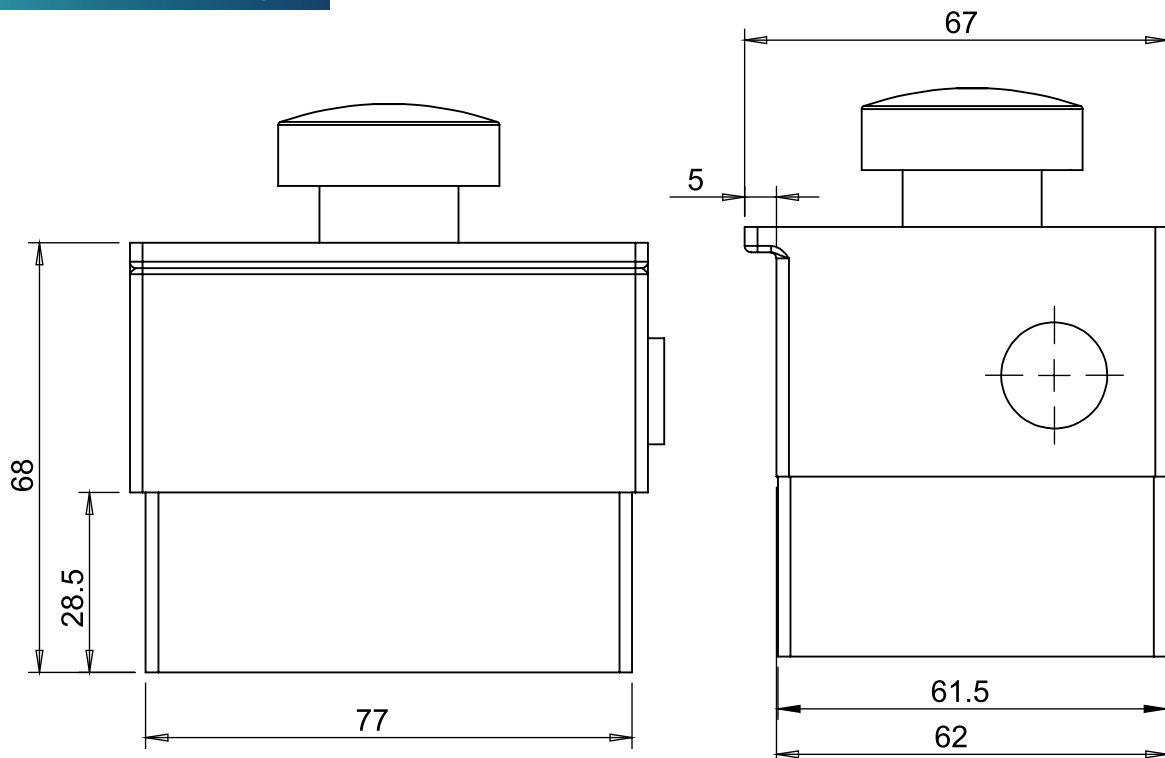
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Foot Spring Loaded Switch	13.70.500	CLW/ES/3/SK-1/0032			xxx	xxxxx

Technical Specification :

Current	1.2 Amp
Voltage	150 V, D.C.
Temperature	- 40°C to +70°C
Protection Class	IP 20



Dimensional Drawing :



Key Switch Simulation



General: Key switch simulation is used for controlling the Loco function.

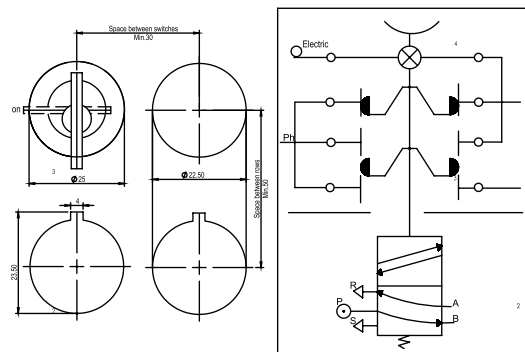
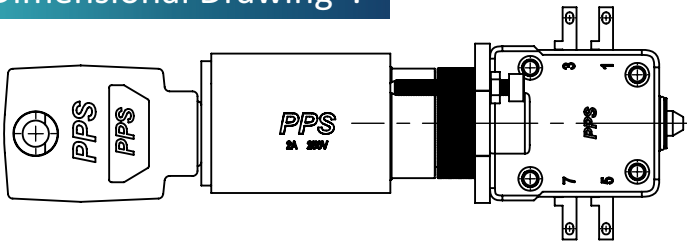
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Key Switch Simulation	10.51.500	GUT-SS 22Y 21000	3EHP585704R2222	2	179	29700127

Technical Specification :

Nominal current	2A
Nominal voltage	250V AC
Assembly of contact block	2 Break contacts & 2 Make contacts
Connections	Faston 2.8 x 0.5mm
Contact	2 Latching position
Removable in position	Off
Nominal width	3mm
Connection	M5
Pressure range	0-8 bar



Dimensional Drawing :



Push Button for Emergency Stop with Contact Block

General: Emergency switch is mounted on the front panel of driver desk, which is used only in each of emergency to stop the loco function. Such switch are highly reliable due to its application as it is very rarely used but shall never fail when needed.

The auxiliary contacts mounted beyond the emergency switch are used for disconnecting various control function of the loco in one push in case of emergency.

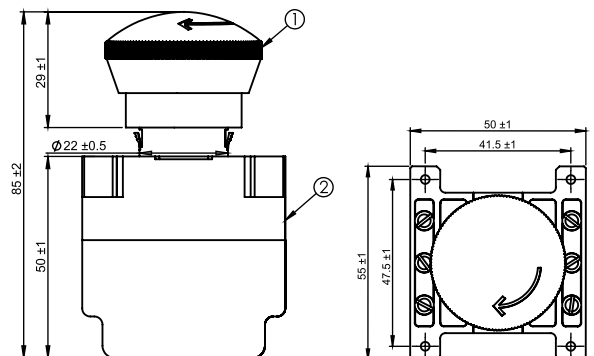
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Push Button for emergency stop with safety contact blocks	13.59.500	CLW/ES/3/0077ALT-A	3EHP590153R0002	2	244	29700139

Technical Specification :

Current (DC/AC)	5 Amp / 8 Amp
Voltage (DC /AC)	24V / 250V
Type	Mushroom head
Color	Red
Dia of Head	37mm
Front Face of the operating head	Anodized Aluminum
Contact	1N/O, 1N/C



Dimensional Drawing :





Cab Activating Key Switch

General:

Cab activating key switch is mounted on the front panel of driver desk. This switch allows driver to start the locomotive, so the reliability and functionality of this switch shall be of very high standards, so the almost care has been taken to design and produce a very high reliability cab activation switch.

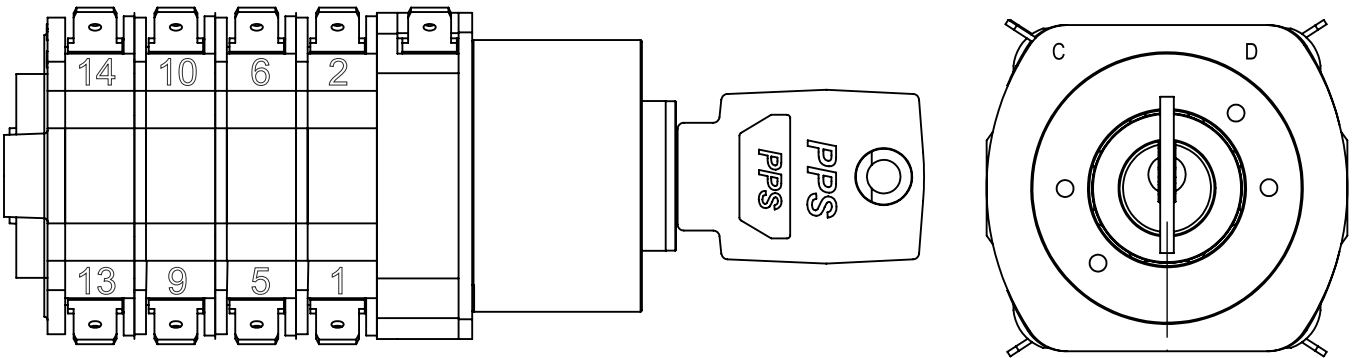
POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Cab Activating Key Switch	13.55.500	SS-S-8-H-KABA	3EHP590522P0001	2	125	29701030

Technical Specification :

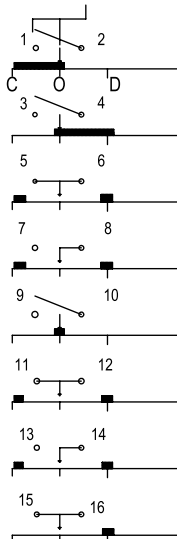
Voltage	110V DC
Current	1.5 Amp
No. of Contacts	8
No. of Elements	4
Connections	Faston 6.3 x 0.8
Earthing	Faston 6.3 x 0.8
Switch Angle	2 x 45°
Note:- Key removable in Position O	



Dimensional Drawing :



Aux Contact Position :



POSITION	D		B		C		NOTCHED	
	0	1	2	3	4	5	6	7
1								
3								
5								
7								
9								
11								
13								
15								

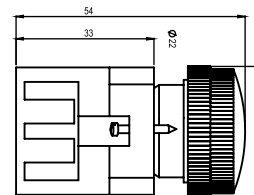
General: Illumination

POS	Description	PPS Part No.	CLW ref. Part No.	ABB Ident.No	Qty / Loco	Loco Mounting Position	PL. No. as per CLW Approved list
A	Illuminated Push Button Configuration in SB-1		ZB4BW3537 + ZB2BP015 + ZB4BW0B51	3EHP585726P0024	1	161	297002790114P
B	Illuminated Push Button - 1		ZB4BV043 + ZB4BVB4	3EHP585818P1014	2	163	296129010114P
(a)	Fault Status Lamp						
(b)	Indication Lamp for VCB						
(c)	Indication Lamp for Train Parting						
C	Illuminated Push Button - 2		ZB4BV053 + ZB4BVB5	3EHP585818P1015	2	242.1	296102300114P
(a)	Indication Lamp Vigilance Warning						
(b)	Indication Lamp Hotel Load Supply						
(c)	Indication Temp. of Control Electronics						
(d)	Indication Lamp Wheel Slipping						
D	Illuminated Push Button Constant Speed Control		ZB4BW5337 + ZB4BW0B31	3EHP585818P2131	2	151.4	297010040114P
E	Illuminated Push Button Parking Brake		ZB4BW5437 + ZB4BW0B41	3EHP585818P2141	2	268	297010160114P
F	Illuminated Push Button for Failure acknowledge		ZB4BW3537 + ZB2BP015 + ZB4BW0B51	3EHP585818P2151	2	163.1	297010280114P
G	Illuminated Push Button Emergency Flasher Light		ZB4BK12537 + ZB4BV18B5 + 2XZBE101 + ZBE102	3EHP585848P0251	2	316.2	297002310114P
H	Illuminated Push Button for Vigilance Control		ZB4BP387 + ZB4BZ101	3EHP585818P0291	2	236	297002430114P
I	Push Button Reset Vigilance Control		ZB4BP587 + ZB4BZ101	3EHP585818P0311	2	237.5	297002550114P

Technical Specification :

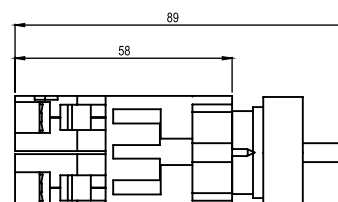
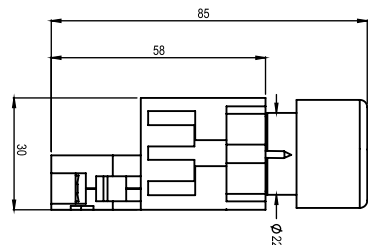
Ratings	Pilot light body for multi LED 18 ma. 24V DC
Vibration Resistance	15 gms. Confirming to IEC 68-2-6
Insulation parts	Glass fibre reinforced polyamide

Dimensional Drawing :



Contact Block Characteristics:

Rated insulation voltage	Ui = 500v. degree of Pollution 3 conforming to IEC 947-1
Rated impulse withstand voltage	Ui = 6Kv. Conforming To IEC. 947-1
Contact operation	Slow break N/C or N/O
Opening force	Flush and projecting push with 1 N/C Contact
	With 1 N/C contact : 0.8 daN
Additional contact	N/O : + 0.5 daN and N/C : +0.3 daN
Short circuit protection	10a cartridge flush type gl.
Operating rate	3600 OP Cycle / hr. load factor: 0.5
Electrical reliability	Failure rate ?< : fault for 100 Million operation cycle.
Cabling	Screw and captive cable Clamp
Capacity	Minimum 1x 0.5 mm ² , Maximum: with or with out Cable end 2 x 1.5 mm ² or 1 x 2.5 mm ² .
Life	3 millions operating cycles





UNIT-1
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UNIT-2



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