SOCOMEC

LBS

LOAD BREAK DISCONNECT SWITCHES

Ferraz Shawmut LBS load break disconnect switches have been designed for today's industrial control systems. The LBS switches allow you to safely turn power on and off or to isolate a particular circuit within the panel. These switches are extremely compact and offer a variety of mounting options like DIN rail mounting, base mounting, or door mounting. A wide assortment of handles, shafts and accessories are available to provide you with the ultimate flexibility in the design of your industrial control panels. Wiring terminations are integral to the switch body and recessed to insure a "finger safe" environment according to IEC standards to an IP20 grade of protection.

HIGHLIGHTS:

- Finger Safe
- Compact footprint
- DIN rail or base mount standard
- Door mounting optional
- Choice of external handles/shafts
- Direct mount handle option
- Toggle handle option

APPLICATIONS:

- On/Off switching and disconnect applications in circuits up to 600 volts, 125 amperes on the load side of branch circuit protection fusing.
- LBS M range: Motor Controller
- LBS R & T range: Motor Controller suitable as Motor Disconnect
- Motor Isolator
- General Purpose

Ratings

- 600 VAC
- 16, 20, 25, 30, 40, 60, 80, 100, and 125 amperes

Approvals

- Meets the requirements of UL 508
- UL Listed Guide NLRV File E196672
- cUL Listed Guide NLRV7 File E196672
- CSA C22.2 No 14 CEC rule 28 602 (3) (b)
- IEC 947-3 as load break disconnector

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LBS M

LOAD BREAK DISCONNECT SWITCHES

SELECT A SWITCH

LBS RANGE: Load Break Disconnect Switches from 16 to 125 Amperes

	AMPERE RATING	16	20	25	30
	CATALOG NUMBER: 3 POLE	LBSM16	LBSM20	LBSM25	LBSM30

SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER			
1,3R, 12, 4, 4X	IP65	NO	Black	HMSB	HMSB	HMSB	HMSB
1, 3R, 12, 4, 4X	IP65	NO	Red/Yellow	HMSR	HMSR	HMSR	HMSR

SELECT A SHAFT

SHAFT LENGTH (inches/mm)	CATALOG NUMBER			
2.75 / 70	SM70-5L	SM70-5L	SM70-5L	SM70-5L
4.72 / 120	SM120-5L	SM120-5L	SM120-5L	SM120-5L
7.9 / 200	SM200-5L	SM200-5L	SM200-5L	SM200-5L
12.0 / 305	SM300-5L	SM300-5L	SM300-5L	SM300-5L

OR

SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER			
1,3R, 12	IP54	YES	Black	HDPB	HDPB	HDPB	HDPB
1, 3R, 12	IP54	YES	Red/Yellow	HDPR	HDPR	HDPR	HDPR
1, 3R,12	IP54	NO	Black	HDPBND	HDPBND	HDPBND	HDPBND
1, 3R, 12	IP54	NO	Red/Yellow	HDPRND	HDPRND	HDPRND	HDPRND

SELECT A SHAFT

SHAFT LENGTH (inches/mm)	CATALOG NUMBER			
4.72/120	SD120-5L	SD120-5L	SD120-5L	SD120-5L
7.9/200	SD200-5L	SD200-5L	SD200-5L	SD200-5L
12.6/320	SD320-5L	SD320-5L	SD320-5L	SD320-5L
15.75/400	SD400-5L	SD400-5L	SD400-5L	SD400-5L

OR

SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER			
1,3R, 12	IP54	YES	Black	HGPB	HGPB	HGPB	HGPB
1, 3R, 12	IP54	YES	Red/Yellow	HGPR	HGPR	HGPR	HGPR
1, 3R,12, 4, 4X	IP65	YES	Black	HGPB4	HGPB4	HGPB4	HGPB4
1, 3R, 12, 4, 4X	IP65	YES	Red/Yellow	HGPR4	HGPR4	HGPR4	HGPR4

SELECT A SHAFT

SHAFT LENGTH (inches/mm)	CATALOG NUMBER			
4.72/120	SG120-5L	SG120-5L	SG120-5L	SG120-5L
7.9/200	SG200-5L	SG200-5L	SG200-5L	SG200-5L
12.6/320	SG320-5L	SG320-5L	SG320-5L	SG320-5L
15.75/400	SG400-5L	SG400-5L	SG400-5L	SG400-5L

OPTIONS	CATALOG NUMBER			
Modular 4th power pole (rating same as switch)	PPM16	PPM20	PPM25	PPM30
Neutral pole (feed through, not switched, rated 30A, 480VAC)	NMM	NMM	NMM	NMM
Ground pole (feed through, not switched, rated 30A, 480VAC)	GMM	GMM	GMM	GMM
(1) NO+NC, side mount, pre-break auxiliary contact, A300, rated 15A @ 120 VAC	ACMM	ACMM	ACMM	ACMM
Terminal shroud (for 3 pole switch)	TSLBSM	TSLBSM	TSLBSM	TSLBSM
Terminal shroud for modular 4th pole or NMM or GMM	TSLBSM4	TSLBSM4	TSLBSM4	TSLBSM4
Direct mounted handle (requires removing collar from switch)	HAD60M	HAD60M	HAD60M	HAD60M

OTHER VERSIONS AVAILABLE: Switch with Direct Mounted Handles

	AMPERE RATING	16	20	25	30
	CATALOG NUMBER: 3 POLE	LBSM16DH	LBSM20DH	LBSM25DH	LBSM30DH

Please consult factory for availability of switches with direct mounted handles. Options same as above.

Door mounted switches

	AMPERE RATING	16	20	25	30
	CATALOG NUMBER: 3 POLE	LBSDM16	LBSDM20	LBSDM25	LBSDM30

SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER			
1,3R, 12, 4, 4X	IP65	NO	Black	HMSB	HMSB	HMSB	HMSB
1, 3R, 12, 4,	IP65	NO	Red/Yellow	HMSR	HMSR	HMSR	HMSR

OPTIONS	CATALOG NUMBER			
Modular 4th power pole (rating same as switch)	PPDM16	PPDM20	PPDM25	PPDM30
Neutral pole (feed through, not switched, rated 30A, 480VAC)	NDMM	NDMM	NDMM	NDMM
Ground pole (feed through, not switched, rated 30A, 480VAC)	GDMM	GDMM	GDMM	GDMM
(1) NO+NC, side mount, pre-break auxiliary contact, A300, rated 15A @ 120 VAC	ACDMM	ACDMM	ACDMM	ACDMM

Note: All "-5L" shafts have door interlock pinned at factory (no assembly required)

K

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LBS R & T

LOAD BREAK DISCONNECT SWITCHES

SELECT A SWITCH

AMPERE RATING	30	40	60	80	100	125
CATALOG NUMBER: 3 POLE	LBSR30	LBSR40	LBSR60	LBSR80	LBSR100	LBSR125
CATALOG NUMBER: 4 POLE	LBSR304	LBSR404	—	—	—	—

SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER					
1,3R, 12, 4, 4X	IP65	NO	Black	HMSB	HMSB	HMSB	HMSB	HMSB	HMSB
1, 3R, 12, 4, 4X	IP65	NO	Red/Yellow	HMSR	HMSR	HMSR	HMSR	HMSR	HMSR

SELECT A SHAFT

SHAFT LENGTH (inches/mm)		CATALOG NUMBER					
2.75 / 70		SM70-5L	SM70-5L	SM70-5L	SM70-5L	SM70-5L	SM70-5L
4.72 / 120		SM120-5L	SM120-5L	SM120-5L	SM120-5L	SM120-5L	SM120-5L
7.9 / 200		SM200-5L	SM200-5L	SM200-5L	SM200-5L	SM200-5L	SM200-5L
12.0 / 305		SM300-5L	SM300-5L	SM300-5L	SM300-5L	SM300-5L	SM300-5L

OR

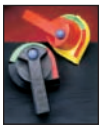
SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER					
1,3R, 12	IP54	YES	Black	HDPB	HDPB	HDPB	HDPB	HDPB	HDPB
1, 3R, 12	IP54	YES	Red/Yellow	HDPR	HDPR	HDPR	HDPR	HDPR	HDPR
1, 3R,12	IP54	NO	Black	HDPBND	HDPBND	HDPBND	HDPBND	HDPBND	HDPBND
1, 3R, 12	IP54	NO	Red/Yellow	HDPRND	HDPRND	HDPRND	HDPRND	HDPRND	HDPRND

SELECT A SHAFT

SHAFT LENGTH (inches/mm)		CATALOG NUMBER					
4.72/120		SD120-5L	SD120-5L	SD120-5L	SD120-5L	SD120-5L	SD120-5L
7.9/200		SD200-5L	SD200-5L	SD200-5L	SD200-5L	SD200-5L	SD200-5L
12.6/320		SD320-5L	SD320-5L	SD320-5L	SD320-5L	SD320-5L	SD320-5L
15.75/400		SD400-5L	SD400-5L	SD400-5L	SD400-5L	SD400-5L	SD400-5L

OR



SELECT A HANDLE

NEMA TYPE	IEC TYPE	DEFEATABLE	COLOR	CATALOG NUMBER					
1,3R, 12	IP54	YES	Black	HGPB	HGPB	HGPB	HGPB	HGPB	HGPB
1, 3R, 12	IP54	YES	Red/Yellow	HGPR	HGPR	HGPR	HGPR	HGPR	HGPR
1, 3R,12, 4, 4X	IP65	YES	Black	HGPB4	HGPB4	HGPB4	HGPB4	HGPB4	HGPB4
1, 3R, 12, 4, 4X	IP65	YES	Red/Yellow	HGPR4	HGPR4	HGPR4	HGPR4	HGPR4	HGPR4

SELECT A SHAFT

SHAFT LENGTH (inches/mm)		CATALOG NUMBER					
4.72/120		SG120-5L	SG120-5L	SG120-5L	SG120-5L	SG120-5L	SG120-5L
7.9/200		SG200-5L	SG200-5L	SG200-5L	SG200-5L	SG200-5L	SG200-5L
12.6/320		SG320-5L	SG320-5L	SG320-5L	SG320-5L	SG320-5L	SG320-5L
15.75/400		SG400-5L	SG400-5L	SG400-5L	SG400-5L	SG400-5L	SG400-5L

OPTIONS	CATALOG NUMBER					
(1) NO Auxiliary contact rated 10A, 600VAC, A600-Q600	AC11	AC11	AC11	AC11	AC11	AC11
(1) NC Auxiliary contact rated 10A, 600VAC, A600-Q600	AC12	AC12	AC12	AC12	AC12	AC12
Auxiliary contact holder: 3 pole (accommodates up to 6 auxiliary contacts)	ACHLBS1	ACHLBS1	ACHLBS2	ACHLBS2	ACHLBS2	ACHLBS2
4 pole (accommodates up to 6 auxiliary contacts)	ACHLBS14	ACHLBS14	—	—	—	—
Door mounting kit for LBSR switches (order switch and HMSB or HMSR separately)	DMKLBSR	DMKLBSR	DMKLBSR	DMKLBSR	DMKLBSR	DMKLBSR
Direct mounted handle (requires removing collar from switch)	HAD40R	HAD40R	HAD80R	HAD80R	HAD80R	HAD80R

OTHER VERSIONS AVAILABLE:

Switch with Direct Mounted Handles (includes escutcheon plate for lockout capabilities)

AMPERE RATING	30	40	60	80	100	125
CATALOG NUMBER: 3 POLE	LBSR30DH	LBSR40DH	LBSR60DH	LBSR80DH	LBSR100DH	LBSR125DH
CATALOG NUMBER: 4 POLE	LBSR304DH	LBSR404DH	—	—	—	—

Please consult factory for availability of switches with direct mounted handles.

Toggle style

AMPERE RATING	30	40	60	80	100	125
CATALOG NUMBER: 3 POLE	LBST30	LBST40	LBST60	LBST80	LBST100	LBST125
CATALOG NUMBER: 4 POLE	LBST304	LBST404	—	—	—	—

Optional DIN escutcheon plate for lockout capabilities.

CATALOG NUMBER: 3 POLE	CP40T	CP40T	CP80T	CP80T	CP80T	CP80T
CATALOG NUMBER: 4 POLE	CP40T4P	CP40T4P	—	—	—	—

(No lockout capability for 4 pole)

Note: All "-5L" shafts have door interlock pinned at factory (no assembly required)

LBS M

LOAD BREAK DISCONNECT SWITCHES

		LBS M			
Rating		**16 A**	**20 A**	**25 A**	**30 A**
Approval		UL508/cUL	UL508/cUL	UL508/cUL	UL508/cUL
Short-circuit rating kA at 600 V AC w/fuse		5	5	5	5
Branch circuit fuse type		RK5	RK5	RK5	RK5
Max fuse rating (A)		30	30	30	30
Maximum UL Horsepower	208V AC	3	5	7.5	7.5
ratings (3-ph)	220-240V AC	5	5	7.5	7.5
	440-480V AC	10	10	15	15
	600V AC	10	15	20	20
Maximum UL Horsepower	120 V AC	1	1.5	2	2
ratings (1-ph)	240 V AC	2	3	3	5
DC ratings	125 V DC	16	20	25	30
2 pole in series					
Terminal lugs	wire type	Cu	Cu	Cu	Cu
	wire size (solid)	#10-#14	#10-#14	#10-#14	#10-#14
	wire size (stranded)	#6-#14	#6-#14	#6-#14	#6-#14
Weight (lb)		0.32	0.32	0.32	0.32

IEC 947-3 TECHNICAL CHARACTERISTICS

		LBS M			
THERMAL CURRENT Ith (40 °C)		**16 A**	**20 A**	**25 A**	**32 A**
Rated insulation voltage Ui (V)		800	800	800	800
Rated impulse withstand Uimp (kV)		8	8	8	8
OPERATIONAL CURRENT (A)					
400 V AC	AC 22 A	16	20	25	32
	AC 23 A	16	20	25	32
500 V AC	AC 22 A	16	20	25	32
	AC 23 A	16	16	20	25
690 V AC	AC 22 A	16	20	25	32
	AC 23 A	16	16	20	20
MOTOR POWER (KW)					
400 V AC	AC 23	7	9	11	15
500 V AC	AC 23	9	9	11	15
690 V AC	AC 23	11	11	15	15
OVERCURRENT CAPACITY					
Short-circuit current with gG fuses (kA Rms)		50	50	50	50
Maximum rating for associated gG fuses (A)		16	20	25	32
Cut-off current (kA peak)		5.9	5.9	5.9	5.9
Short-time withstand current Icw 1s (kA)		1.2	1.2	1.2	1.2
MECHANICAL ENDURANCE (# of operations)		100 000	100 000	100 000	100 000
CONNECTION					
Cu (mm^2)	3p/4p	1.5 to 16	1.5 to 16	1.5 to 16	1.5 to 16

Note: 4-pole made by using modular 4th pole (see options, page K3, ie PPM16 or PPDM16)

K

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LBS R & T

LOAD BREAK DISCONNECT SWITCHES FROM 30 TO 125 A

UL AND CSA TECHNICAL CHARACTERISTICS FOR LBS R & LBS T RANGE MOTOR CONTROLLER SUITABLE AS MOTOR DISCONNECT

		LBS R & LBS T					
Rating		**30 A[1]**	**40 A[1]**	**60 A**	**80 A**	**100 A**	**125 A**
Approvals		UL508/CSA MD	UL508/CSA MD	UL508/CSA MD	UL508/CSA MD	UL508 MD	UL508[2]
Short-circuit rating kA at 600 V AC w/fuse		10	10	10	10	10	10
Branch circuit fuse type		RK5	RK5	J or RK5	J or RK5	J or RK5	J or RK5
Max fuse rating (A)		80	80	150	150	150	150
Maximum UL Horsepower	208V AC	7.5	7.5	10	15	20	20
ratings (3-ph)	220-240V AC	7.5	7.5	15	20	20	25
	440-480V AC	15	20	30	40	40	50
	600V AC	20	25	40	50	-	60
Maximum UL Horsepower	120 V AC	1.5	2	2	3	5	5
ratings (1-ph)	240 V AC	3	3	7.5	10	15	15
DC ratings	125 V DC	30	40	60	80	80	80
2 pole in series							
Terminal lugs	wire type	Cu	Cu	Cu	Cu	Cu	Cu
	wire size (solid)	#10-#14	#10-#14	#10-#14	#10-#14	#10-#14	#10-#14
	wire size (stranded)	#4-#14	#4-#14	#1-#14	#1-#14	#1-#14	#1-#14
Weight (lb)		0.44	0.44	0.66	0.66	0.66	0.66

(1) Consult factory for "approvals of" 4 pole ratings
(2) UL508 Motor Controller only

IEC 947-3 TECHNICAL CHARACTERISTICS

		LBS R & LBS T					
THERMAL CURRENT Ith (40 °C)		**32 A**	**40 A**	**63 A**	**80 A**	**100 A**	**125 A**
Rated insulation voltage Ui (V)		690	690	690	690	690	690
Rated impulse withstand Uimp (kV)		8	8	8	8	8	8
OPERATIONAL CURRENT (A)							
400 V AC	AC 22 A	32	40	63	80	100	-
	AC 23 A	25	25	63	63	63	-
500 V AC	AC 22 A	32	40	63	80	100	-
	AC 23 A	25	25	45	45	45	-
690 V AC	AC 22 A	32	40	63	80	80	-
	AC 23 A	25	25	40	40	40	-
MOTOR POWER (KW)							
400 V AC	AC 23	11	11	30	30	30	-
500 V AC	AC 23	15	15	30	30	30	-
690 V AC	AC 23	22	22	33	33	33	-
OVERCURRENT CAPACITY							
Short-circuit current with gG fuses (kA Rms)		50	50	50	50	50	-
Maximum rating for associated gG fuses (A)		32	40	63	80	100	-
Cut-off current (kA peak)		4.5	5	5	-	-	-
Short-time withstand current Icw 1s (kA)		0.9	1	1.5	1.5	1.5	-
MECHANICAL ENDURANCE (# of operations)		20 000	20 000	20 000	20 000	20 000	-
CONNECTION							
Cu (mm^2)	3p	1.5 to 16	1.5 to 16	1.5 to 35	1.5 to 35	1.5 to 35	-
	4p	1.5 to 25	1.5 to 25	-	-	-	-

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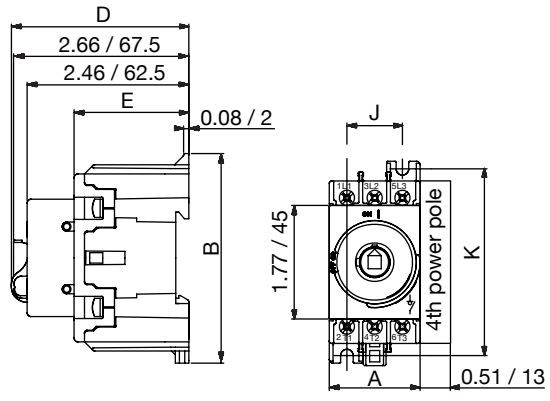
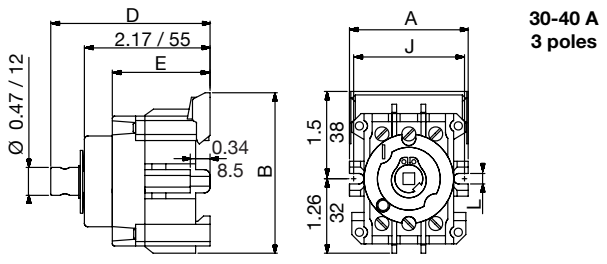
DIMENSIONS (dual dimensions: in/mm)

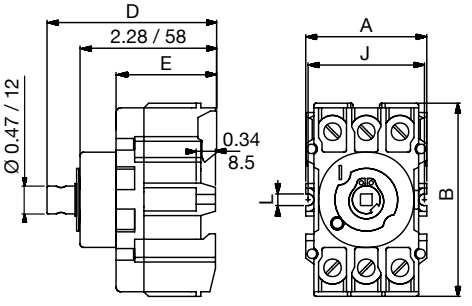
LBS M - BASE MOUNTING



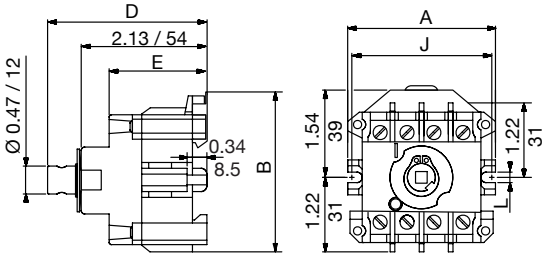
LBS R - BASE MOUNTING



30-40 A
3 poles



60-80-100-125 A
3 poles



30-40 A
4 poles

RATING	NUMBER OF POLES	A		B		D		E		J		K		L	
		In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm
LBS M 16 A LBS M 20 A LBS M 25 A LBS M 30 A	3 P	1.42	36	3.15	80	2.76	70	1.76	44.5	0.87	22	2.92	74	-	-
LBS R 30 A	3 P	2.01	51	2.76	70	2.71	69	1.66	42	1.89	48	-	-	0.17	4.2
LBS R 40 A	4 P	2.42	61.5	2.76	70	2.71	69	1.66	42	2.38	60.5	-	-	0.17	4.2
LBS R 60 A LBS R 80 A LBS R 100 A LBS R 125 A	3 P	2.09	53	3.35	85	2.87	73	1.69	43	1.99	50.5	-	-	0.17	4.2

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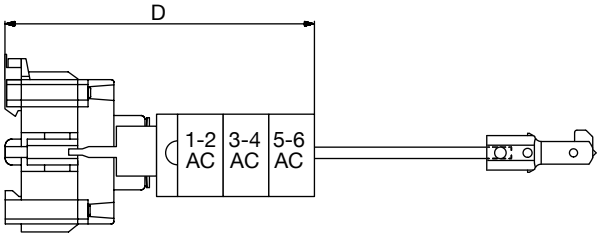
DIMENSIONS (dual dimensions: in/mm)

LBS R DIMENSIONS WITH AUXILIARY CONTACTS

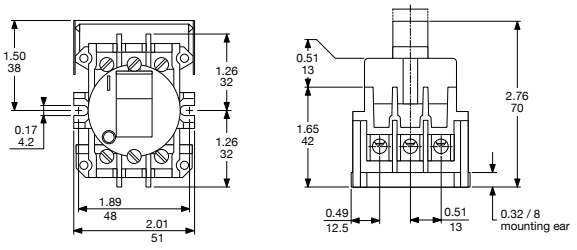


LBS R	D (in/mm)		
	1-2 AC	3-4 AC	5-6 AC
30-40A 3 poles	3.63 / 92	4.53 / 115	5.44 / 138
30-40A 4 poles	3.63 / 92	4.53 / 115	5.44 / 138
60-80 100-125A 3 poles	3.78 / 96	4.69 / 119	5.60 / 142

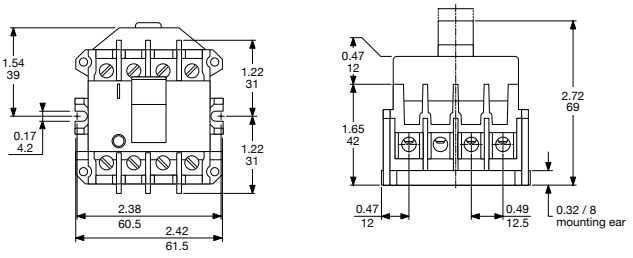
Note: Auxiliary contacts can be used with external operation only.

LBS T (TOGGLE STYLE) - BASE MOUNTING

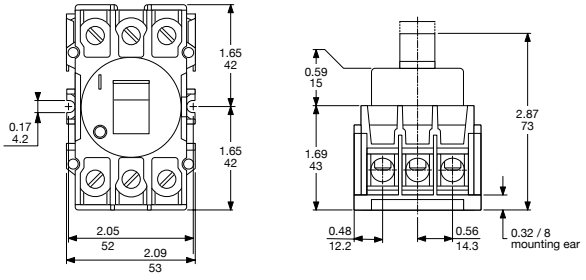
30 - 40 A
3 poles



30 - 40 A
4 poles



60 - 80 - 100 - 125 A
3 poles



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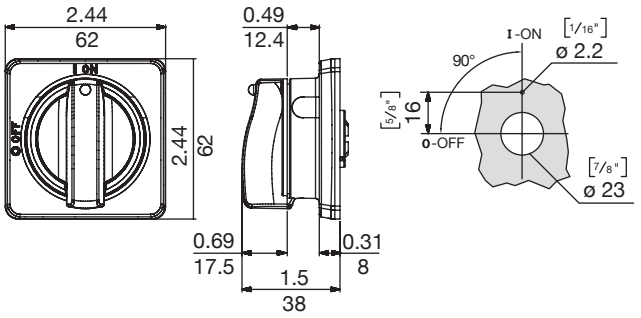
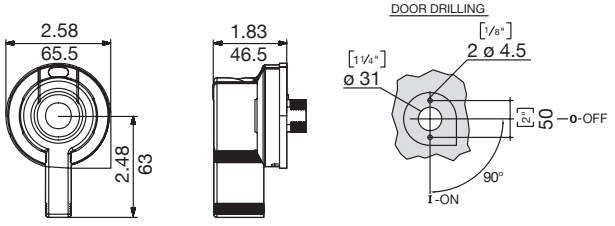
HANDLES FOR EXTERNAL FRONT OPERATION

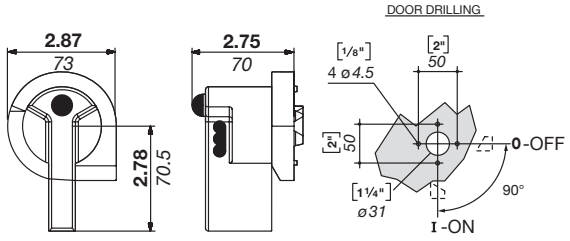
SELECTOR HANDLE TYPE M FOR LBS M AND LBS R



PISTOL HANDLE TYPE D FOR LBS M AND LBS R



PISTOL HANDLE TYPE G FOR LBS M AND LBS R



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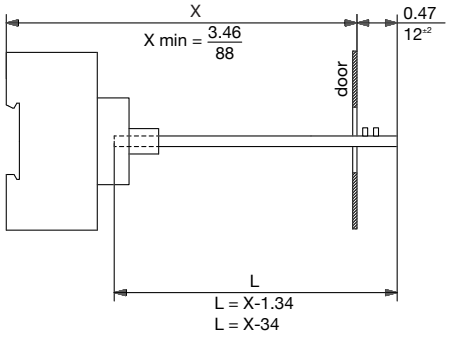
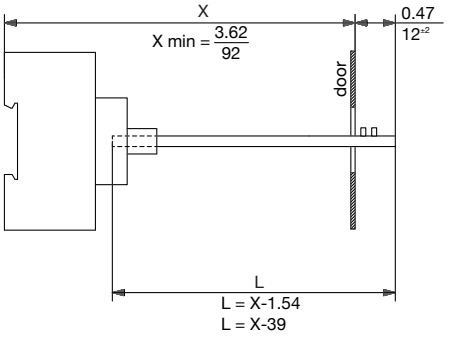
BACKPLATE TO DOOR DISTANCE WITH SHAFT EXTENSION (in/mm)

SELECTOR HANDLE TYPE M - SHAFT TRIMMING LENGTH (= DIMENSION L)

LBS M (16 up to 30 A)
LBS R (30 up to 40 A)

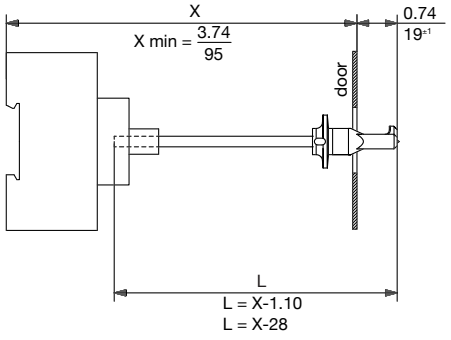


LBS R (60 up to 125 A)

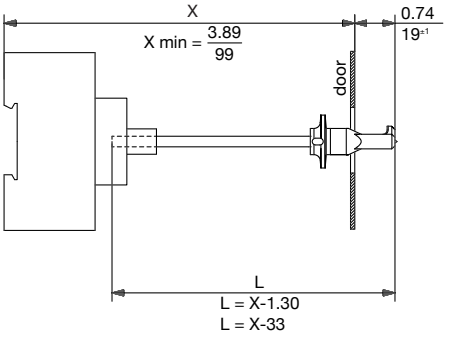


PISTOL HANDLE TYPE D - SHAFT TRIMMING LENGTH (= DIMENSION L)

LBS M (16 up to 30 A)
LBS R (30 up to 40 A)

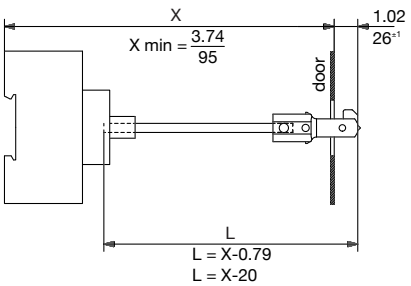
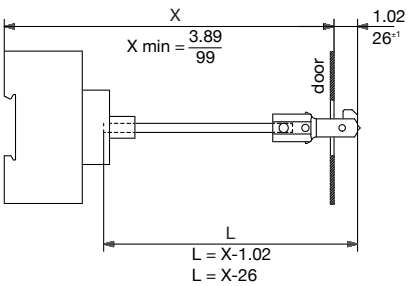


LBS R (60 up to 125 A)



PISTOL HANDLE TYPE G - SHAFT TRIMMING LENGTH (= DIMENSION L)

LBS M (16 up to 30 A)
LBS R (30 up to 40 A)



LBS R (60 up to 125 A)