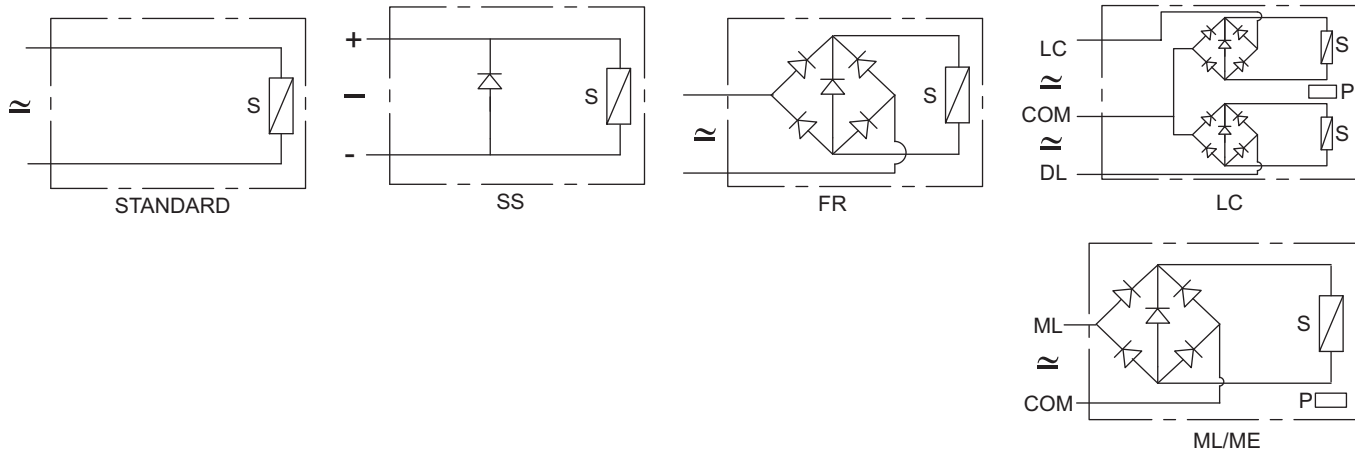


EXPLOSION PROOF SOLENOID TYPE : 37 & 39

Ex d

CIRCUIT DIAGRAM



FEATURES

- Designed for extreme environmental condition
- With Integrated terminal box and Horizontal cable entry
- Large terminals for easy connections
- Constructed for lowest temperature rise thus longer life
- 'O' Energiser for higher magnetic linkage
- Wider voltage variation
- Surger Suppressor Provided
- Dual gasket



SPECIFICATION

Size	I- 14 mm, II- 18 mm, III- 13 mm, III & IV - 14 mm
Voltage	6 V, 12 V, 24 V, 48 V, 110 V, 120 V, 220 V, 256 V
Current	50 Hz, 60 Hz, DC, 50/ 60/ DC
Enclosure	Cable Entry M25X1.5, Adopted to M20X1.5 or 1/2" NPT ((INDIAN Approval) M20X1.5, 1/2" NPT (37-01, 39-01) (Other than INDIAN Approval) Material Aluminum Cast, Polyester Powder coat, Colour Red Stainless Steel Cast, Painted Optionally Grey Polyester Powder coat
Options	Corrosive Environment (CO), Manual Reset ON (MR ON), Manual Reset OFF (MR OFF), Low Power (LW), Latch (LC), Surge Suppressor(SS), Fully Rectified (FR)
Power	Refer to table "Power" on page 428A
Insulation Class	Class F optionally Class H (INDIAN Approval) Class H (Other than INDIAN Approval)
Weather Protection	IP66, IP67, IP67M (Refer marking on page 429C)
Approval	INDIAN, ATEX, CU-TR, INMETRO, CCOE, DGMS, SIL
Pick Up Voltage	≤ 70% of Rated Voltage
Drop Down	AC : ≤ 65% of Rated Voltage, DC : ≤ 30% Rated Voltage
Voltage Variation	Refer to Voltage Variation table on page 429B
Duty Cycle	100% (ED)
Ambient Temperature	Refer to Ambient temperature table on page 429C

WEIGHT IN kg

Size	Al	SS
I	0.5	0.8
II	0.8	1.6
III	0.6	1.4
IV	0.8	1.6

APPLICATION



EXPLOSION PROOF SOLENOID TYPE : 37

Ex d

POWER

Voltage	Solenoid		Power (VA)							
	Size	Core Dia	0.4 ^②	1.8 ^②	3.5	5	8	12	13	30
6	I	14					▲			
	II	18					✓		▲	
	III	13	✓							
	III	14		✓	✓		▲			
	IV	14		✓						
12	I	14		✓ ^③			▲	▲		
	II	18					✓		▲	✓
	III	13	✓							
	III	14		✓	✓		▲			
	IV	14		✓						
24	I	14		✓ ^③			▲	▲		
	II	18					✓		▲	✓
	III	13	✓							
	III	14		✓	✓	✓	▲			
	IV	14		✓						
48	I	14		✓ ^③			▲	▲		
	II	18							▲	✓
	III	14		✓	✓		▲			
	IV	14		✓						
110-120	I ^①	14				✓ ^③		▲		
	II	18					✓		▲	✓
	III	14			✓	✓	▲			
220-240	I ^①	14		✓ ^③				▲		
	II	18					✓		▲	✓
	III	13								
	III	14				✓	▲			
256 ^②	II	18					✓		▲	✓
	III	14					▲			
440 ^④	III	14						▲		

- ▲ Standard
- ✓ Optional Available

- ① Current 50 Hz or 60 Hz
- ② Only for DC Current
- ③ Should be Opted for 3/2 & 5/2 pilot operated valve
- ④ Current 50 Hz only

STANDARD POWER

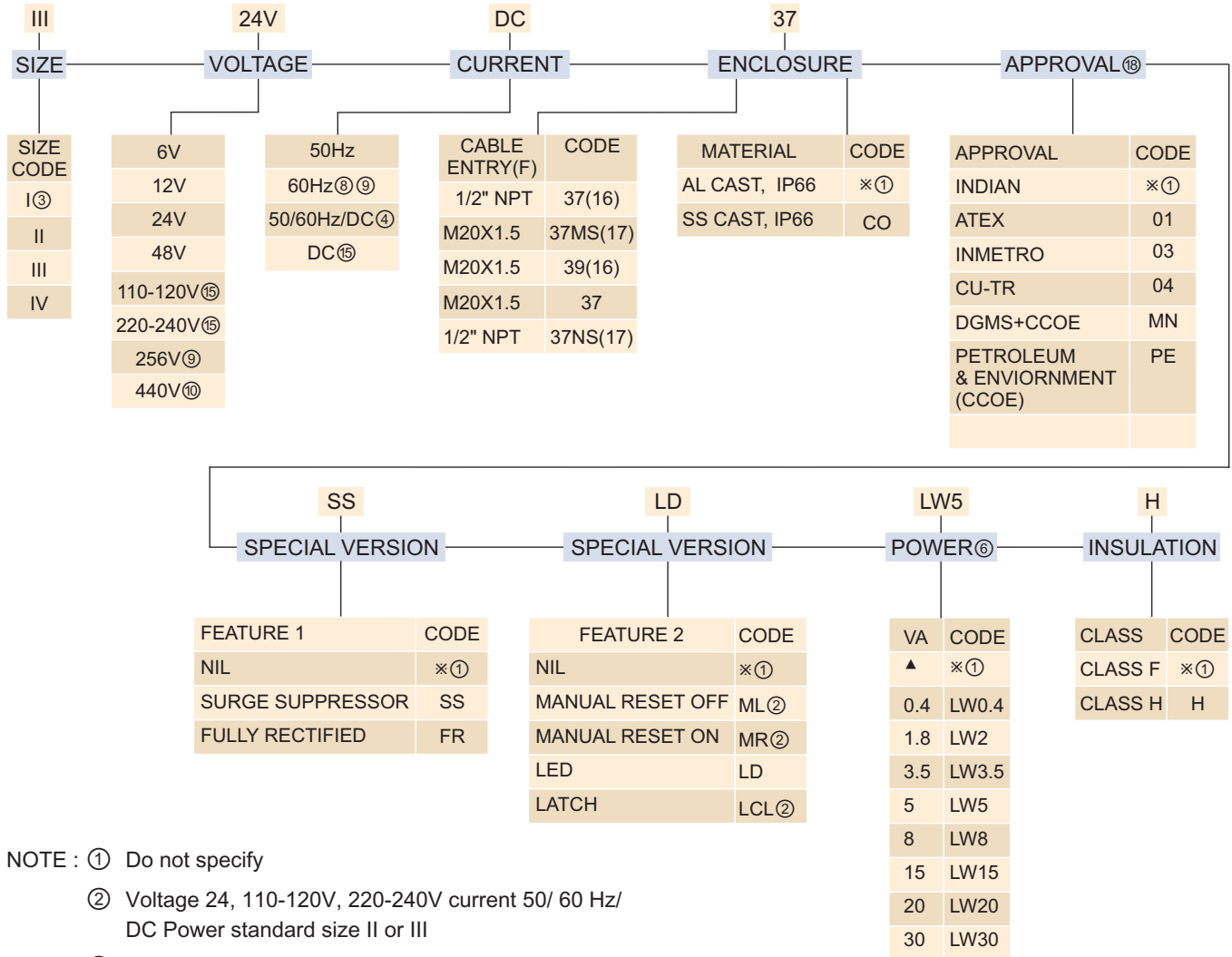
Size	Current	Standard Power W, VA
I	AC	6, 12
	DC	8, 8
II	AC	13, 13
	DC	13, 13
III	AC	6, 12
	DC	8, 8

EXPLOSION PROOF SOLENOID TYPE : 37

Ex d

SOLENOID ORDERING CODE

III-24V-DC-37-CO-SS-LD-LW5-H



NOTE : ① Do not specify

② Voltage 24, 110-120V, 220-240V current 50/ 60 Hz/ DC Power standard size II or III

③ Current 50/ 60 Hz/ DC & Special version FR can not be opted

④ Select special version FR

⑥ Refer Power table on page 428A

⑧ 110-120V 50 Hz Solenoid can be used for 110V 50 Hz, 120V 60 Hz

⑨ 220-240V 50 Hz Solenoid can be used for 240V 60 Hz, 220-240V 50 Hz

⑩ 50 Hz current, Size III only

⑮ Current DC size II, III

⑯ Other than INDIAN approval

⑰ INDIAN approval, supplied with Ex Adaptor

⑱ Add SL for SIL capable certified coil

VOLTAGE VARIATION (For Continuous Duty only)

Rated Voltage	Operating Voltage
6	4.8V to 7.2V
12	9.6V to 14.4V
24	19.2V to 28.8V
48	38.4V to 57.6V
110-120	88V to 132V
220-240	176V to 264V
256	205V to 280V
440	350V to 480V

APPROVAL

Approval	certifying Agencies	reference Number
INDIAN	CMRI	KLPL/Ex/R/12-007
	KLPL (Re-Validated)	CMRI/TC/P/H-1415
BIS INDIAN		7229976
CCOE/ PESO INDIAN		P-218046/1
DGMS INDIAN		230 of 2011
EUROPEAN/ ATEX	CESI, Italy	CESI 03 ATEX 344 Extension No. 01/12
	CEPEL	CEPEL 08-1717X
CU-TR		RU C-IN.ГБ08.B.01100



EXPLOSION PROOF SOLENOID TYPE : 37 & 39

Ex d

MARKING

Marking	Ambient Temperature
ATEX	
II 2GD Ex d IIC T6 Gb Ex tb IIIC T80 °C Db IP66	- 40 °C ≤ Ta < 35 °C
II 2GD Ex d IIC T5 Gb Ex tb IIIC T95 °C Db IP66	- 40 °C ≤ Ta ≤ 50 °C
II 2GD Ex d IIC T4 Gb Ex tb IIIC T130 °C Db IP66	- 40 °C ≤ Ta ≤ 60 °C
INDIAN, CCOE/PESO, DGMS Refer to Table for Ambient Temp.	
Ex d IIC Tx IP67	- 20 °C ≤ Ta ≤ AA °C
INMETRO	
II 2GD Ex d IIC T6 Gb Ex tb IIIC T85 °C Db IP66	- 40 °C ≤ Ta < 35 °C
II 2GD Ex d IIC T5 Gb Ex tb IIIC T100 °C Db IP66	- 40 °C ≤ Ta ≤ 50 °C
II 2GD Ex d IIC T4 Gb Ex tb IIIC T135 °C Db IP66	- 40 °C ≤ Ta ≤ 60 °C
CU-TR	
1 Ex d IIC T6 Gb X/Ex tb IIIC T80 °C Db	- 40 °C to 35 °C
1 Ex d IIC T5 Gb X/Ex tb IIIC T95 °C Db	- 40 °C to 50 °C
1 Ex d IIC T4 Gb X/Ex tb IIIC T130 °C Db	- 40 °C to 60 °C

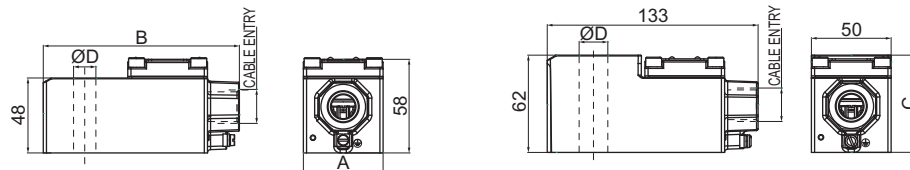
AMBIENT TEMPERATURE

(INDIAN Approval)

SIZE	MAX. POWER	MAX. AMBIENT TEMP. °C		
		T6 (80)	T5 (95)	T4 (130)
I	5	65	70	-
	8	60	70	-
III	5	70	-	-
	8	60	70	-
	15	50	65	70
II	8	65	70	-
	10	60	70	-
	13	60	70	-
	20	55	70	-
IV	30	40	55	70
	5	70	-	-
	11	65	70	-

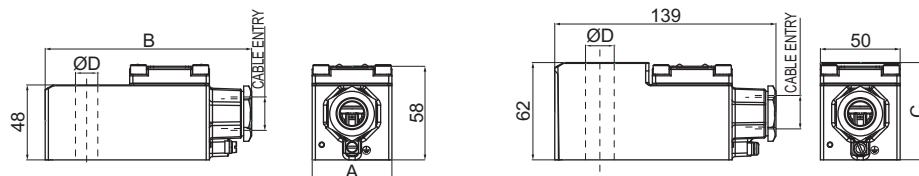
DIMENSION

SOLENOID TYPE : 37 & 39



SIZE	A	B	ØD	COIL TYPE	CABLE ENTRY	APPROVAL INDIAN	OTHER THAN INDIAN	SIZE	C	ØD
I	42	116	14	37	M25X1.5(F)	✓		II	61	18
III	50	124	14	37	1/2"NPT(F)		✓	IV	51	14
III	50	124	13	39	M20X1.5(F)		✓			
				37NS	1/2"NPT(F)	✓				
				37MS	M20X1.5(F)	✓				

CABLE ENTRY M20X1.5, 1/2" NPT(F) (With Ex Adopter) (INDIAN Approval)



SIZE	A	B	ØD	COIL TYPE	CABLE ENTRY	APPROVAL INDIAN	SIZE	C	ØD
I	42	122	14	37	1/2"NPT(F)	✓	II	61	18
III	50	130	14	39	M20X1.5(F)	✓	IV	51	14
III	50	130	13	37MS	M20X1.5(F)	✓			
				37NS	1/2"NPT(F)	✓			

OBSELETE PRODUCTS AND ITS INTERCHANGEABILITY

<p>Replace Solenoid code 37 or 37MS along with Guide & Plunger assembly</p>	<p>Replace Solenoid code 37 or 37MS along with Guide & Plunger assembly</p>	<p>Solenoid code 39 replace with Solenoid code 37MS</p>		
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