L&T Electrical & Automation





ABOUT US

L&T Electrical & Automation (E&A) is a market leader for electrical distribution, monitoring and control solutions in the low voltage category.

Popular among customers as L&T Switchgear, E&A offers a wide range of low and medium voltage switchgear, motor starters, electrical systems, industrial automation, building electrical solutions, energy management solutions, electrical modernization solutions and metering solutions. It products and solutions cater to key sectors of economy like industries, utilities, infrastructure, building and agriculture.

E&A's manufacturing operations at Navi Mumbai, Ahmednagar, Vadodara, Coimbatore and Mysuru in India adhere to global practices of excellence and receive support from well-equipped in-house design and development centres as well as tooling facilities that contribute to precision in manufacturing.

Switchgear Factory, Vadodara

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The DU/DY Series, a new generation of MCCBs, stands out due to its stateof-the-art design, contemporary user-friendly features, ergonomics, aesthetics and compactness.

DU/DY Series complies with the latest standards like IS/IEC 60947-2, IEC 60947-2 & EN 60947-2. The products conform to international standards, carry **(** ϵ marking and are *KEMA* \rightleftharpoons & CB certified.

The range is specially designed for tropical conditions, ensuring reliable performance at high ambient and humid environments. The range can satisfy the most demanding system requirements.

The DU/DY Series, having a wide range of accessories, ensures operational safety, reliability and versatility.

MCCB ENCLOSURE

New Range of MCCB enclosures, Size I Enclosure suitable for DU100D/DU125D/DU100H/DU125H/DY125U and Size II Enclosure suitable for DU250/DU250C. These standalone enclosures not only provides ample space for cable termination but are also superior in aesthetics.

- Conforms to IEC 62208, IEC 62262 and IEC 60529
- Common Enclosure for 3P/4P MCCBs
- RoHS compliant
- IP30 Protection & IK08 Protection
- Inbuilt Neutral Link for TPN systems
- Mounting Holes on the back plate
- · Louvers for better heat dissipation

Enclosure	Height (mm)	Width (mm)	Depth (mm)
Size I	543	198	97
Size II	830	337	111



Size I Enclosure

Size II Enclosure

SALIENT FEATURES











Technology

- Current Limiting MCCBs: The unique speed contact system with current limiting feature accelerates the opening of contacts during short circuit, resulting in very low let-through energy
- No load line bias: Either side of MCCB terminal can be used as load or line
- MCCB Mechanism: Quick make, quick break & trip free mechanism

Ergonomic Design & User Friendliness

- Knob designed for better grip
- Color indication of ON/TRIP/OFF
- Current rating on the knob*
- Overload adjustment from front*
- Easy ON/OFF/RESET operations

Safe to Use

- Suitable for Isolation
- Finger proof terminals
- Phase barriers supplied along with MCCBs to enhance the clearance between the phases
- Lockable shroud on thermal knob to prevent unauthorized operation*
- € marked range
- Double Insulation

Accessories

- Auxiliary contacts
- Trip alarm contacts
- Combined Auxiliary + Trip alarm contacts*
- Shunt release
- Under Voltage release*
- Direct & Extended ROM with Padlocking
- Spreader links
- Size I & Size II Enclosure
- GF module for earth fault protection*
- All internal accessories are Snap fit type

Compact & Easy to Install

- Compact size
- Common depth upto 250A
- 46mm door cutout upto 250A



Technica	l Parameters		Specifications			
Type Des	ignation		DY125U			
No. of Poles			2/3/4			
Rated Cur	d Current I_n (A)		16, 20, 25, 32, 40, 50, 63, 80, 100, 125			
Impulse V	Vithstand Voltage	$U_{_{\mathrm{imp}}}$ (kV)	8			
Rated On	erational Voltage	$U_{\rm e}({\rm VAC})$	415			
Nated Op		U _e (VDC)	250			
Rated Ins	ulation Voltage	U _i (VAC)	800			
Operation	al Frequency (Hz)	50 / 60			
Utilisation	Category		A			
Reference	e Temperature		40 °C			
Operating	Temperature		-5 °C to + 55 °C			
Standard			IS60947-2, IEC60947-2 & EN60947-2			
	240 V AC		25			
I _{cu} (kA)	(kA) 415 V AC		10			
	250 V DC#		10			
Rated Ser	ed Service S. C. Breaking Capacity (I_{cs})		100% of <i>I</i> _{cu}			
Mechanic	al Life	No. of operations	30000			
Electrical	Life	No. of operations	8000 ^s			
IP Protection (from front side)		le)	IP40			
Pollution Degree			III			
Type of Release			Thermal - Magnetic			
Thermal			Fixed			
Magnetic			Fixed (10 <i>I</i> _n)*			
Terminal	Capacity (withou	ut spreaders)				
Cables wi	Cables with Lug (mm ²)		50			
Link (mm)	Link (mm)		≤17			
Overall D	Overall Dimensions					
Width (3/4	Width (3/4 Pole) (mm)		75/100			
Height (m	m)		130			
Depth (mm)			60			
Weight (2/3/4 Pole) (kg)			0.60 / 0.67 / 0.92			

Note: 2 Pole in 3 Pole frame size

\$ 5000 for 125 A

* 320A for 16A, 20A, 25A

Any 2 poles can be used. One for "+" polarity & other for "-" polarity.

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DU Series

Technic	cal Parameters		Specifications					
Type Do	esignation		DU100D/DU125D DU100H/DU125H DU250C DU250		DU400N			
No. of Poles		3/4	2/3/4	3/4	2/3/4	2/3/4		
Rated C	Current	I _n (A)	20, 25, 32, 40, 20, 25, 32, 40, 50, 63, 80, 100, 125 50, 63, 80, 100, 125		320, 400			
Impulse	Withstand Voltag	e U _{imp} (kV)		8			8	
Rated C	Operational Voltag	$U_{e} = U_{e} (V AC)$		415			690	
Rated In	nsulation Voltage	<i>U</i> _i (V AC)		800			800	
Operatio	onal Frequency (H	z)			50 / 60			
Utilisatio	on Category				А			
Referen	ice Temperature				40 ° C			
Operati	ng Temperature				5 °C to + 55 °C			
Standar	ď			IS/IEC60947-2	, IEC60947-2 & E	N60947-2		
	240 V AC		32	65	65	65	65	
	415 V AC		18	30	25	36	50	
I _{cu} (kA)	250 V DC (2P i	n series) L/R<15 msec	-	15	-	15	25	
250 V DC (3P in series) L/R<15 msec		15	20	15	20	30		
500 V DC (3P in series) L/R<15 msec		10	15**	10	15**	20***		
Rated S	Service S. C. Brea	king Capacity (I_{cs})	100% of <i>I</i> _{cu} 50% of <i>I</i> _{cu}					
Single Stage Capacitor Rating at 415V, 50Hz (kVAr)		upto 50 kVAr* (for 100A) & 65 kVAr* (for 125A)		upto 95 kVAr*		upto 150 kVAr*		
Mechan	ical Life	No. of operations	40000 15000 100		10000			
Electrica	al Life	No. of operations	8000 ^{\$} 5000 ^{\$} 40		4000			
IP Prote	ection (from front	side)	IP40					
Pollutio	n Degree		Ш					
Type of	Release		Thermal - Magnetic					
Thermal		Variable (0.8 - 1.0/,)						
Magnetic		Fixed (9/ _n)						
Termina	Terminal Capacity (without spreaders)							
Cables with Lug (mm ²)		35		120		185		
Link (mm)		≤17		≤26		≤32		
Overall Dimensions								
Width (mm)		75/100 75/75/100		105/140		140/184		
Height (mm)		130		165		205		
Depth (mm)		60		6	0	110.5	
Weight (2/3/4 Pole) (kg)		0.85/1.1	0.6/0.85/1.1	1.55/2	1.3/1.55/2	4/5		

* Please use Capacitor Duty Contactors with MCCB for Capacitor Applications. Capacitor ratings mentioned are with MO C only.

** 10 kA at 500V d.c. (2P in series) L/R<15 msec *** 15kA at 500V d.c. (2P in series) L/R<15 msec

\$ 4000 for DU125D/DU125H, 3000 for 250A DU250/DU250C

Note : 2P MCCBs are available upto 100A in DU100H



DU100D / DU125D / DU100H / DU125H



DU250C / DU250



Note : All Curves are *I*, (rated current) based till overload zone.

DU400N



DIMENSIONS

DY125U



DY125U With Spreader



Link width (without spreader) : ≤17mm Link width (with spreader) : 25mm

Note: Spreader links are available as spare.

It is recommended to use spreader links for enhancing termination capacity. Please use 125A MCCB with its recommended Spreader only.



DU100D / DU125D / DU100H / DU125H



3-Pole with Spreaders





4-Pole with Spreaders

2-Pole, 3-Pole, 4-Pole



Link width (without spreader) : ≤17mm Link width (with spreader) : 22mm

Note: Spreader links are available as spare.

It is recommended to use spreader links for enhancing termination capacity. Please use 125A MCCB with its recommended Spreader only.

3-Pole, 4-Pole



DU250C / DU250



3-Pole with Spreaders

4-Pole with Spreaders

2-Pole, 3-Pole, 4-Pole





Link width (without spreader) : \leq 26 mm Link width (with spreader) : 35 mm

Note: Spreader links are available as spare. It is recommended to use spreader links for enhancing termination capacity.

DIMENSIONS





3-Pole with Spreaders

4-Pole with Spreaders

DU400N

2-Pole, 3-Pole, 4-Pole







Link width (without spreader) : ≤32 mm Link width (with spreader) : 40 mm

Note: Spreaders are available as spare. It is recommended to use spreader links for enhancing termination capacity.

PANEL CUT-OUT DIMENSIONS 10

DY125U





DU100D / DU125D / DU100H / DU125H



DU250C / DU250







ROM MOUNTING DIMENSIONS 12





Panel Door

* Minimum hinge radius for Horizontal/Vertical MCCB installation

Extended ROM (DY125U)

Direct ROM (DY125U)



Vertical & Horizontal References with Respects to MCCB Mounting

Panel Cut Details as Viewed From the Front







Direct ROM (DU100D / DU125D / DU100H / DU125H / DU250C / DU250 / DU400N)

Туре	L1	L2	L3	L4	L5	L6
DU100D/DU125D/DU100H/DU125H	96.5	58	52	43.5	37	85
DU250C/DU250	96.5	73	52	56.5	54	77
DU400N	145	121	87	41	82	95

L1 = Mounting Depth L2/L3 = Panel Cut-out L4/L5 = Breaker Mounting Reference L6 = Depth outside the panel

Note : For DU100/DU125U/DU100B Direct ROM dimensions please refer product insert

Extended ROM (DU100D / DU125D / DU100H / DU125H / DU250C / DU250 / DU400)







Cut The Shaft to the Required Length = L

Туре	L1	L	L2	L3
DU100D/DU125D/DU100H/DU125H	169	L1-119	7.5	69.5
DU250C/DU250	169	L1-119	24.5	81.7
DU400N	233	L1-183	39	93

- L = Length of Shaft required for Panel Depth L1 (mm)
- L1 = Min. Panel depth (mm)
- L4 = Depth outside the panel



Size I Enclosure for DU100D/DU125D/DU100H/DU125H/DY125U



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Size II Enclosure for DU250/DU250C





Ground Fault Modules are of Types GF1, GF2 and GF11. These modules are to be used with MCCBs for ground fault protection. The principle of operation is based on detection of the residual current in the system. They combine safety and versatility, conforming to the high performance standards, the characteristic of all E&A products.



Ground Fault Module GF1 GF1 is suitable upto 200A MCCBs



Ground Fault Module GF2 GF2 is suitable upto 200A to 400A MCCBs



Ground Fault Module GF11 GF11 is suitable upto 800A MCCBs

Features

- Compact in size
- Solid state design
- Built-in moulded CBCT for GF1 & GF2. External CTs are to be used for GF11
- Suitable for both 3 Phase 3 wire & 3 Phase 4 wire systems. In case of 3 phase 4 wire system, the natural cable/twisted link should also be passed through the CBCT along with the 3 Phase links / cables
- · Built-in test facility
- Selection facility for nominal current rating (In)
- Earth fault setting is adjustable from 10% to 50% of set current
- Selectable trip times (100ms, 200ms)
- Manual reset for positive fault acknowledgment
- Potential free NO contact to trip MCCB (through 240V shunt release)
- Window dimensions suitable for Cable / Link connection in GF1 and GF2

Note: MCCBs need to be fitted with 110V / 240V as shunt release for Ground Fault Module operation.

Specification	Type GF1 / GF2 / GF11
Current Setting Range, I_s (I_s =x I_n)	10% to 50% In in step of 10%
Auxiliary Supply	240V AC ±20%
Time Delay (ms)	100 / 200ms Field selectable
Pick-up Accuracy	±10%ls
Output Contact	1 NO contact manual reset type contact rating 5A 240V AC
Indication	a) Power on LED b) Trip LED (manual reset)
Operating Temperature	+10°C to +55°C
Insulation	2kV 50Hz for one minute across independent circuit 1kV 50Hz for one minute across open contacts
Mounting	Baseplate mounting type
Window for Cable / Busbar Entry (mm ²)	GF1 - 110 x 32 GF2 - 165 x 61.5
Weight (kg)	GF1 - 1.2, GF2 - 2.2, GF11 - 0.9

Note : Please check GF module window size & MCCB busbar width with spreaders / without spreaders before selection of GF Module. Please contact nearest branch office for further information.



GROUND FAULT MODULE: OVERALL DIMENSIONS 16



GF2



GF11





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Product improvement is a continuous process. For the latest information and special application, please contact any of our offices listed here. Product photographs shown for representative purpose only.



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