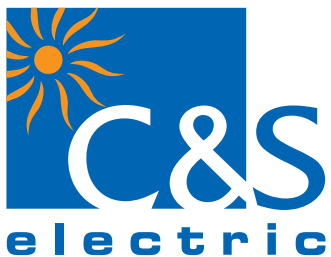


We touch your **electricity** everyday!



Motor Starters

- Industrial

Manufacturing Facilities





TC Industrial Motor Starters incorporates robust construction contactors, thermal overload relay with built-in single phase protection, manual re-set NO/NC potential free contacts, flag indicator for relay tripping, temperature compensated (-) 40°C to (+) 60°C, trip class 10 assures motor protection conforming to IS13947-4-1. Industrial Motor Starters are available in below variants

PRODUCT RANGE

DOL Starters

- DOL Starter with 4 Pole contactor in deep drawn sheet steel enclosure upto 25 HP
- DOL Starter with 3 Pole contactor in deep drawn sheet steel enclosure upto 40 HP
- DOL Starter with 3 Pole contactor in moulded plastic enclosure upto 15 HP
- Reversing DOL Starter with 3 Pole contactor in deep drawn sheet steel enclosure upto 20 HP

Star Delta Starters

- Automatic Star Delta Starter with 4 Pole contactor in deep drawn sheet steel enclosure upto 30 HP
- Semi Automatic Star Delta Starter with 3 Pole contactor in sheet steel enclosure upto 25 HP
- Automatic Star Delta Starter with 3 Pole contactor in sheet steel enclosure upto 300 HP

FEATURES & BENEFITS

Motor Protection

- Thermal Overload relay type LR1D with built-in single phase protection features ensures complete motor protection against operational overload, single phasing & unbalanced voltages
- Yellow flag for trip indication

Air Break Contactor

- Liberal selection of contactor for long trouble free life
- 3 Pole contactor type LC-1D & LC-1F with global certification
- 3 Pole contactor type LC-1D, assures high electrical & mechanical life
- 3 Pole contactor type LC-1F utilized in Star Delta Starter rating 100HP and above, has unique contact wear indicator
- 4 Pole heavy duty contactor type TC1DX assures long life & easy field maintenance

Easy cable termination

- Motor Starters have designed for easy cable termination
- Star Delta Starter upto 35 HP have provision with Add-on plug-in terminal block which can be pre-wired for its fitment on to contactor & overload relay
- Whereas Star Delta Starter 40HP & above have provision of large terminal block in the bottom for ease of cable termination

Smart Enclosure

- DOL Starter in moulded plastic enclosure suitable for IP54 protection category
- DOL & Star Delta Starter housed in powder coated deep drawn sheet steel enclosure with rubber gasket for IP51 protection category
- Star Delta Starter above 40HP housed in powder coated fabricated enclosure with EPDM gasket for IP54 protection category

DOL Starter with D range Contactor & LR1D OLR in Plastic Enclosure

Product Code	Motor Rating 415V 3 Phase, 50Hz		Motor Full Load Current		Components Selection		Recommended Backup HRC Fuse Rating	
	HP	KW	Sq Motor	SP Motor	Contactor	Overload Relay	(aM)	(gI)
LE1-D173■308	2	1.5	2.8	3.75	LC1D17/16A	LR1D/ 2.5~4.0	6	10
LE1-D173■310	3	2.2	4.2	5.5	LC1D17/16A	LR1D/4.0~6.0	8	16
LE1-D173■312	5	3.7	7	9.25	LC1D17/16A	LR1D/5.5~8.0	12	20
LE1-D173■316X	7.5	5.5	10.5	13.75	LC1D17/16A	LR1D/9~14	16	25
LE1-D253■321	12	9	16.8	22.5	LC1D25/25A	LR1D/13~18	20	32
LE1-D253■322	15	11	21	27.5	LC1D25/25A	LR1D/18~25	25	50



Heavy Duty DOL Starter Type DX-P with robust 4 Pole Contactor & LR1D OLR in S.S. enclosure

Product Code	Std. Power Rating for 3 Phase Motor at 415V		Relay LR1D Range Amps
	HP	kW	
BE1-DXP204■307	1.5	1.1	1.6~2.5
BE1-DXP204■308	2.0	1.5	2.5~4.0
BE1-DXP204■310	3	2.2	4.0~6.0
BE1-DXP204■312	5	3.7	5.5~8.0
BE1-DXP204■314	5.5	4.0	7~10
BE1-DXP204■316X	7.5	5.5	9~14
BE1-DXP204■321	12	9	13~18
BE1-DXP254■321XH	15	11	14~22
BE1-DXP254■322			18~25
BE1-DXP404■353	25	18	23~32

Heavy Duty Automatic Star Delta Starter Type DX-P with robust 4 Pole Contactor & LR1D OLR, Electronic Star Delta Timer in S.S. enclosure

Product Code	Std. Power Rating for 3Phase Motor at 415V		Relay LR1D Range Amps
	HP	kW	
BE3-DXP204■312	7.5	5.5	5.5~8.0
BE3-DXP204■314	12	9	7.0~10
BE3-DXP204■316X	15	11	9~14
BE3-DXP204■321	20	15	13~18
BE3-DXP254■321XH			14~22
BE3-DXP254■322	25	18	18~25
BE3-DXP254■353	30	22	23~32

Heavy Duty Automatic Star Delta Starter Type DX-P with robust 4 Pole Contactor & LR1D OLR, Electronic Star Delta Timer in S.S. enclosure

Product Code	Std. Power Rating for 3Phase Motor at 415V		Relay LR1D Range Amps
	HP	kW	
BE3-DXP204■312	7.5	5.5	5.5~8.0
BE3-DXP204■314	12	9	7.0~10
BE3-DXP204■316X	15	11	9~14
BE3-DXP204■321	20	15	13~18
BE3-DXP254■321XH			14~22
BE3-DXP254■322	25	18	18~25
BE3-DXP254■353	30	22	23~32



AC Coil Voltage Codes (Standard) for Heavy Duty Industrial Starter Type DX-P

Industrial Starter	Voltage		
BE1-DXP	220	190~400#	250~450#
BE3-DXP	-	190~400#	250~450#
Coil Code	M	Q	N

Industrial Starters are available in the above wide band operating range Standard coil voltages.

Reversing Starter with D range Contactor & LR1D OLR in S.S Enclosure

Product Code	Motor Rating 415V 3 Phase, 50Hz		Motor Full Load Current		Components Selection		Recommended Backup HRC Fuse Rating	
	HP	KW	Sq Motor	SP Motor	Contactor	Overload Relay	(aM)	(gI)
BE2-D1735■308	2	1.5	2.8	3.75	LC1D17/16A	LR1D/2.5~4	6	10
BE2-D1735■310	3	2.2	4.2	5.5	LC1D17/16A	LR1D/4.0~6.0	8	16
BE2-D1735■312	5	3.7	7	9.25	LC1D17/16A	LR1D/5.5~8.0	12	20
BE2-D1735■314	5.5	4	7.7	10	LC1D17/16A	LR1D/7~10	12	20
BE2-D1735■316X	7.5	5.5	10.5	13.75	LC1D17/16A	LR1D/9~14	16	25
BE2-D2535■321	12	9	16.8	22.5	LC1D25/25A	LR1D/13~18	20	32
BE2-D2535■322	15	11	21	27.5	LC1D25/25A	LR1D/18~25	25	50
BE2-D3235■353	20	15	28	37.5	LC1D32/32A	LR1D/23~32	40	63



DOL Starter with D range Contactor & LR1D OLR in S.S. Enclosure

Product Code	Motor Rating 415V 3 Phase, 50Hz		Motor Full Load Current		Components Selection		Recommended Backup HRC Fuse Rating	
	HP	KW	Sq Motor	SP Motor	Contactor	Overload Relay	(aM)	(gI)
BE1-D1735■310	3	2.2	4.2	5.5	LC1D17/16A	LR1D/4.0~6.0	8	16
BE1-D1735■312	5	3.7	7	9.25	LC1D17/16A	LR1D/5.5~8.0	12	20
BE1-D1735■316X	7.5	5.5	10.5	13.75	LC1D17/16A	LR1D/9~14	16	25
BE1-D2535■321	12	9	16.8	22.5	LC1D25/25A	LR1D/13~18	20	32
BE1-D2535■322	15	11	21	27.5	LC1D25/25A	LR1D/18~25	25	50
BE1-D3235■353	20	15	28	37.5	LC1D32/32A	LR1D/23~32	40	63
BE1-D4035■355	30	22	42	55	LC1D40/40A	LR1D/28~40	63	-
BE1-D5035■357	35	25	49	62.5	LC1D50/50A	LR1D/38~50	63	-
BE1-D6535■359	40	30	56	75	LC1D65/65A	LR1D/48~70	63	-

Automatic Star Delta Starter

Product Code	Motor Rating 415V 3 Phase, 50Hz		Motor Full Load Current		Components Selection		Recommended Backup HRC Fuse Rating	
	HP	KW	Sq Motor	SP Motor	Contactor	Overload Relay	(aM)	(gI)
BE3-D1735■312	7.5	5.5	8.1	10	LC1D17/16A	LRD / 5.5 - 8.0	16	25
BE3-D1735■314	12	9	8.2	11	LC1D17/16A	LRD / 7~10	20	32
BE3-D1735■316X	15	11	21	27.5	LC1D17/16A	LRD/9-14	25	50
BE3-D2235■321	20	15	28	37.5	LC1D25/25A	LRD / 13 - 18	32	63
BE3-D2235■322	25	18	35	45	LC1D25/25A	LRD / 18 - 25	40	63
BE3-D3235■322	30	22	42	55	LC1D32/32A	LRD / 18 - 25	40	63
BE3-D3235■353	35	25	49	62.5	LC1D32/32A	LRD / 23~32	63	100
BE3-D4035■355	40	30	56	75	LC1D40/40A	LRD/30~40	63	100
BE3-D5035■355	50	37	70	92.5	LC1D50/50A	LRD/30~40	63	100
BE3-D6335■359	70	51	98	127.5	LC1D63/63A	LRD/48~57	100	-
BE3-D8035N361	80	59	112	147.5	LC1D80/80A	LRD/57~66	125	-
BE3-F115N 363	100	75	140	187.5	LC1F115/115A	LRD/66~80	160	-
BE3-F115N105	125	90	175	225	LC1F115/115A	LRD/65~105	200	-
BE3-F150N125	150	110	210	275	LC1F150/150A	LRD/80~125	200	-
BE3-F185N160	180	132	252	330	LC1F185/185A	LRD/100~160	250	-
BE3-F185N200	220	160	308	400	LC1F185/185A	LRD/125~200	315	-
BE3-F265N250	270	200	378	500	LC1F265/265A	LRD/160~250	400	-
BE3-F330N315	300	220	420	550	LC1F330/330A	LRD/200~315	500	-
BE3-F330S315	350	260	490	650	LC1F330/330A	LRD/200~315	500	-

Coil Voltage Codes (Standard) for DOL Starters with D range Contactor		
Motor Starter	Voltage	
BE1-D/LE1-D	220V	415V
Coil Code	UW	N
DOL Motor Starter are available only in the above Standard Coil Voltages.		



Coil Voltage Codes (Standard) for DOL & Star Delta Starters with D range Contactor		
Motor Starter	Voltage	
BE1-D / BE2-D / BE3-D / BE3-F	380	415
Coil Code	NW	N
Wide Band Coil available for Star Delta Starters upto 40 HP only.		

How to order DOL Starter:

- (i) Complete the code by replacing the blue square (■) by the letter(s) corresponding to the Coil Voltage selected.
- (ii) Industrial DOL Starters should be selected based on the FLC of Pump/Motor & Coil Voltage required.

How to order Star Delta Starter:

- (i) Complete the code by replacing the blue square (■) by the letter(s) corresponding to the Coil Voltage selected.
- (ii) Star Delta starters should be selected based on the FLC of the Pump/Motor phase current (Motor FLC X 0.58) & Coil Voltage required.

Contactor 4 Pole Type TC1DX

Robust construction: Superior Performance

- Thick inter-phase moulding walls with liberal clearance & creepage minimises phase to phase shorting risk, assures safety & durability
- Encapsulated H class magnet coil withstand wide voltage range
- Provision of pole spring locator for ease of moving contact positioning in contact carrier

Long Life

- Unique steel Blow-Out design ensures quick arc quenching for long electrical endurance
- Fixed/Moving contacts with large dia silver alloy tips ensures operational longevity

Easy Maintenance

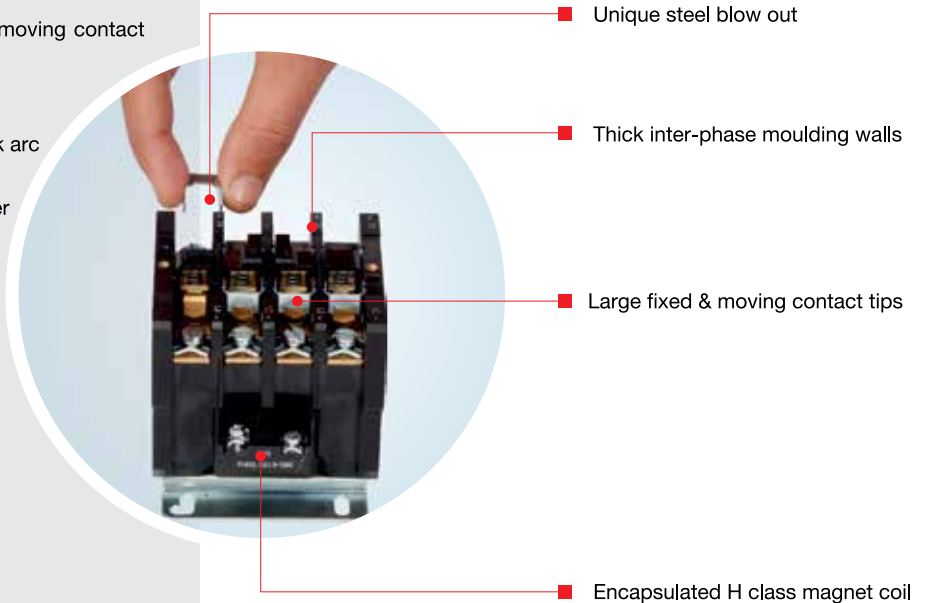
- Field replaceable Fixed / Moving contacts
- Easy coil replacement, when required

User Friendly

- Front & side mounted Add-On block options
- Provision of Mechanical Interlock facility
- Large terminal capacity

Easy Maintenance

- Heavy Duty 4 Pole contactor affords extremely easy maintenance
- Moving contact can be inspected / replaced, if required, easily without any tool
- Fixed contact are also replaceable with ease when required
- Easy coil replacement
- Contactor maintenance requires low down time



Front top cover opening



Easy access to blow-out & moving contacts



Effortless removal of moving contacts

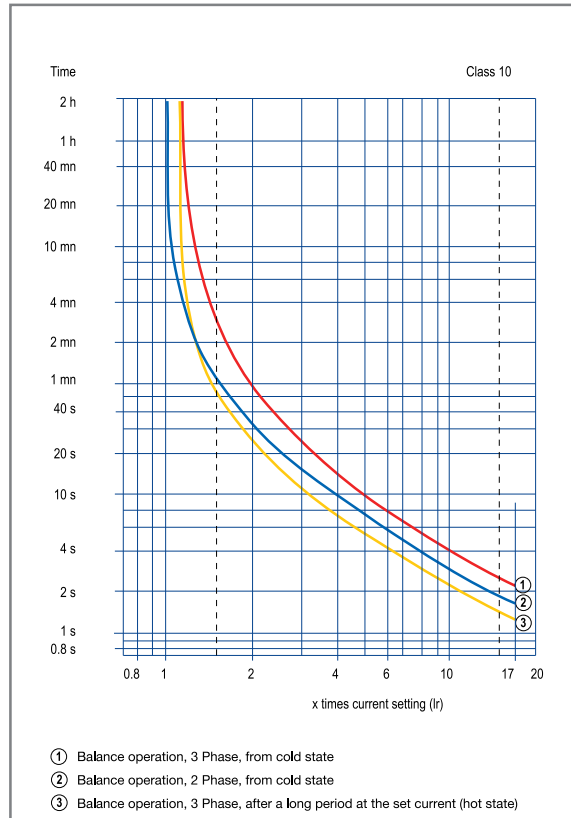


Fixed & moving contacts- easy inspection and replacement

Thermal Overload relay

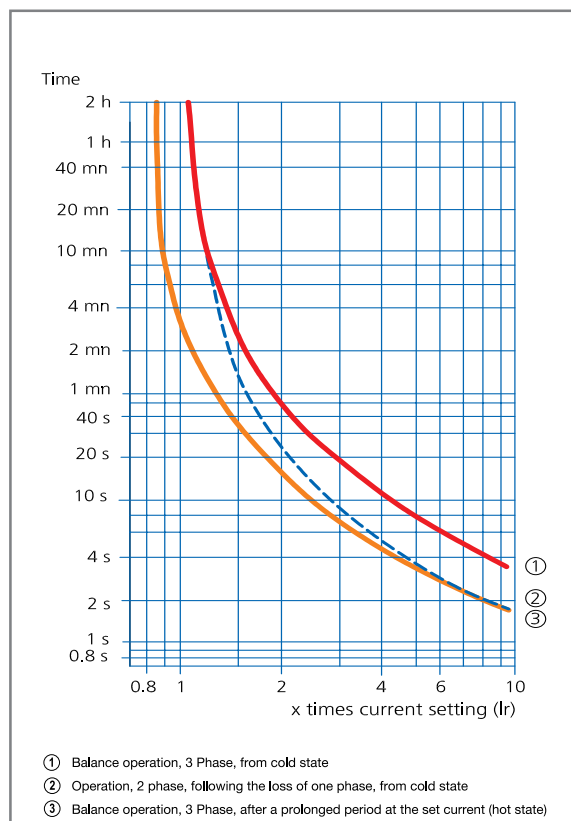
TR2D09 to D25

- Built-in single phase protection
- Yellow flag for trip indication
- Potential free NO/NC contact
- Auto/Manual re-set
- IP20 finger proof

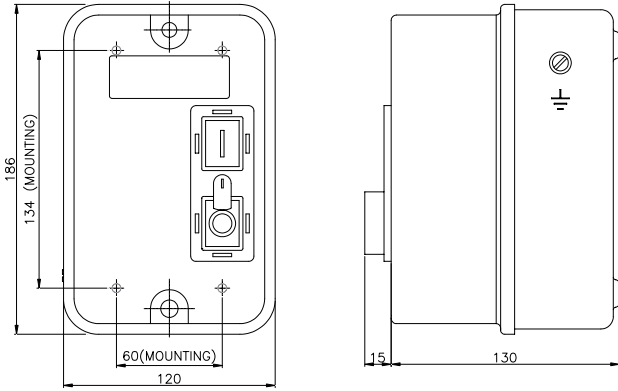


LR1D09 to D32

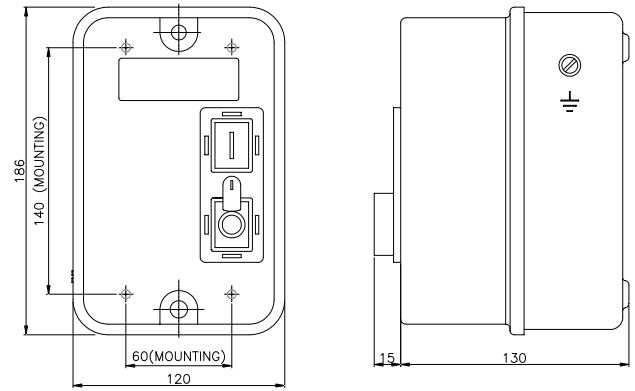
- Built-in single phase protection
- Yellow flag for trip indication
- Potential free NO/NC contact
- Manual re-set



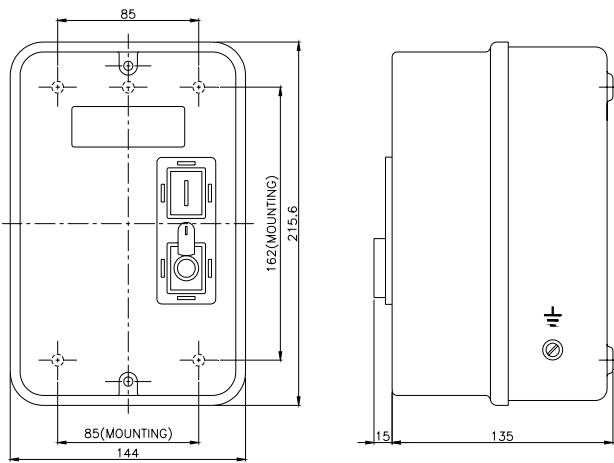
BE1D17, BE1T12 & BE1T18



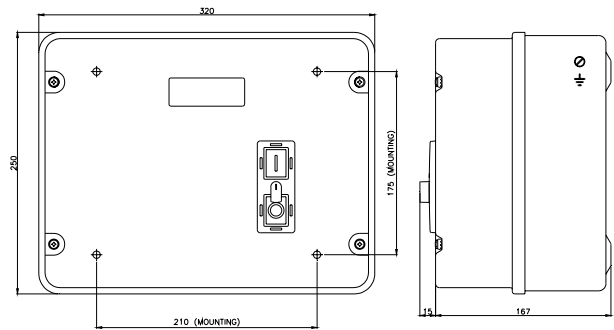
BE1ASA



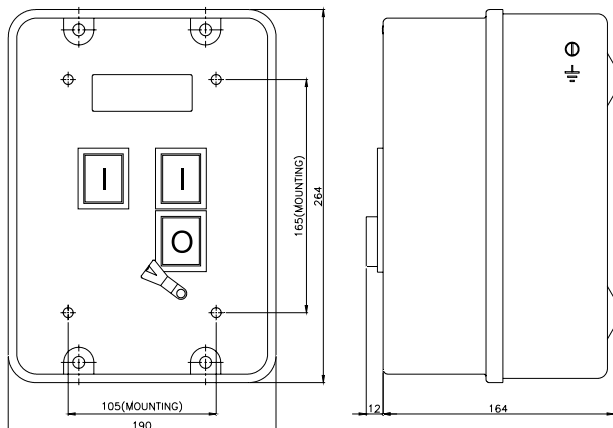
BE1D25, BE1D32, BE1T25 BE1T32, BE1ACD, BE1NCD & BE1NPD



BE3D17, BE3D25, BE3D32, BE3T18 BE3T25, BE3T32 & BE3ACD.



BE2D17, BE2D25 & BE2D32



BE2D17, BE2D25 & BE2D32

