



POWER YOUR LIFE

Product Catalogue 2014

Index

Micro Circuit Breaker 01-02

Mini Circuit Breaker 03

Residual Current Circuit Breaker 04

Long Tail RCBO 05

Single Pole RCBO 6kA 06-07

Single Pole RCBO 3kA 08

Smart Breaker 09~10

Distribution Box 11~12

National **nls**®

6000A
DLMC-40

WORLD LEADING...
INNOVATION
MICRO CIRCUIT BREAKER



DLMC-40

FDMC-40

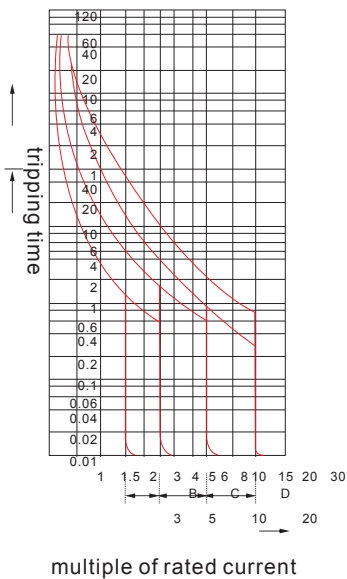
- Width = 9mm
- Breaking Capacity = 6000A
- Approval: **KEMA**
- To be released on Apr.2014

Features and Advantages

- ◇ The real 6kA Micro Circuit Breaker the slimmest, patented, and reliable circuit breaker.
- ◇ Genuine 6kA fault level after hundreds of seriously passed test. suit both residential and commercial applications.
- ◇ Half module(9mm) is ideal to save valuable switchboard space. Required by more and more electrical compliance, the household also need more and more circuit breaker to protect.
- ◇ All accessories available. All normal used accessories, such as contact, alarm, over-voltage protector, shunt release, are available for this micro circuit breaker;
- ◇ 10 years R&D, wholly patent protected
- ◇ Easy to comply with a RCD or RCBO.

Instantaneous Tripping Current

B curve: $3I_n \sim 5I_n$, Circuits with low inductive load;
C curve: $5I_n \sim 10I_n$, Circuits with low inductive load or highly inductive illumination system;
D curve: $10I_n \sim 20I_n$, Circuits with high inductive load or electric distribution system with high surge current



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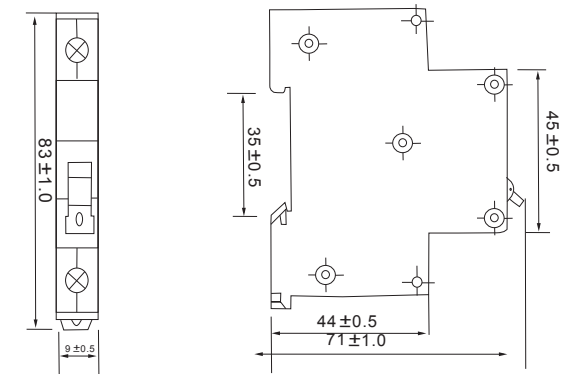
6000A
DLMC-40

Micro Circuit Breaker



Technical Data

Standards	AS/NZ 61898 - 1
Poles	1, 1P+N, 2, 3, 3P+N, 4P
Magnetic tripping characteristics	B, C
Rated current	6, 10, 16, 20, 25, 32, 40
Rated short-circuit capacity(Icn):	3kA, 4.5kA, 6kA
Rated voltage	230/400V
Frequency	50/60
Maximum service voltage	264
Contact position indication	Yes
Energy limiting class:	3
Electrical Life:	>6000
Mechanical Life:	>15000
Connection terminal:	<input type="checkbox"/> Screw terminal <input type="checkbox"/> Pillar terminal with clamp
Connection capacity:	1~16mm
Installation:	<input type="checkbox"/> Symmetrical DIN rail 35mm <input type="checkbox"/> Panel mounting
Accessories:	<input type="checkbox"/> OF: Auxiliary contact <input type="checkbox"/> FB: Auxiliary alarm <input type="checkbox"/> QY: under/over voltage protector <input type="checkbox"/> FL: Shunt release

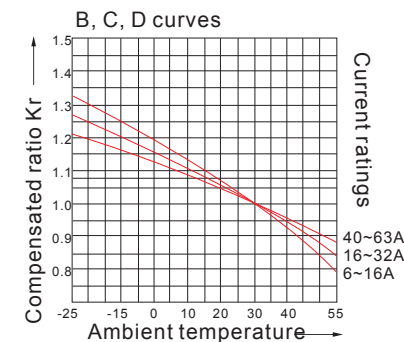


Mirco Circuit Breaker / 9mm /6kA

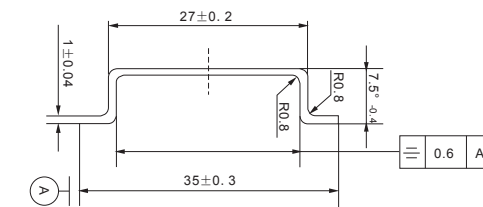
Magnetic Tripping Characteristic	Breaking Capacity (A)	Rated Current (A)	Cat. No.		
			B curve	C curve	
B, C curve	6000	6	DLMC-40, B6, 6kA	DLMC-40, C6, 6kA	
		10	DLMC-40, B10, 6kA	DLMC-40, C10, 6kA	
		16	DLMC-40, B16, 6kA	DLMC-40, C16, 6kA	
		20	DLMC-40, B20, 6kA	DLMC-40, C20, 6kA	
		25	DLMC-40, B25, 6kA	DLMC-40, C25, 6kA	
		32	DLMC-40, B32, 6kA	DLMC-40, C32, 6kA	
	1P 1P+N 2P 3P 3P+N 4P	4500	6	DLMC-40, B6, 4.5kA	DLMC-40, C6, 4.5kA
			10	DLMC-40, B10, 4.5kA	DLMC-40, C10, 4.5kA
			16	DLMC-40, B16, 4.5kA	DLMC-40, C16, 4.5kA
			20	DLMC-40, B20, 4.5kA	DLMC-40, C20, 4.5kA
			25	DLMC-40, B25, 4.5kA	DLMC-40, C25, 4.5kA
			32	DLMC-40, B32, 4.5kA	DLMC-40, C32, 4.5kA
	3000	6	DLMC-40, B6, 3kA	DLMC-40, C6, 3kA	
		10	DLMC-40, B10, 3kA	DLMC-40, C10, 3kA	
		16	DLMC-32, B16, 3kA	DLMC-32, C16, 3kA	
		20	DLMC-32, B20, 3kA	DLMC-32, C20, 3kA	
		25	DLMC-32, B25, 3kA	DLMC-32, C25, 3kA	
		32	DLMC-32, B32, 3kA	DLMC-32, C32, 3kA	

B, C Tripping curve

Ambient temperature and current rating curve



DIN Rail

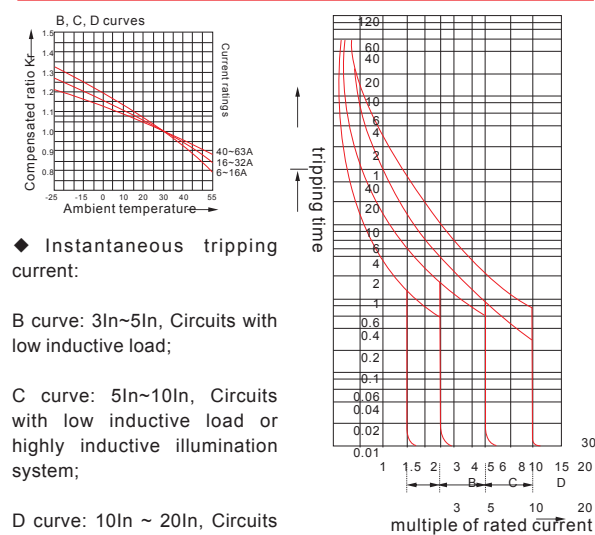


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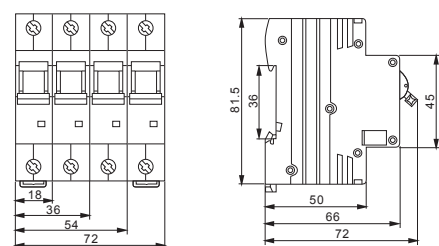


FDM16-63

B, C Tripping curve(see graphics 1):



Overall & installation dimensions



6000A

FDM16-63



Technical Data FDM16-63

Standards	AS/NZ 61898 - 1
Poles	1, 1P+N, 2, 3, 3P+N, 4P
Magnetic tripping characteristics	B, C, D
Rated current	2, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated short-circuit capacity(Icn):	6000A
Rated voltage	230/400V
Frequency	50/60
Maximum service voltage	264
Contact position indication	Yes
Energy limiting class:	3
Electrical Life:	>8000
Mechanical Life:	>10000
Connection terminal:	<input type="checkbox"/> Screw terminal <input type="checkbox"/> Pillar terminal with clamp
Connection capacity:	1~16mm
Installation:	<input type="checkbox"/> Symmetrical DIN rail 35mm <input type="checkbox"/> Panel mounting
Accessories:	<input type="checkbox"/> OF: Auxiliary contact <input type="checkbox"/> FB: Auxiliary alarm <input type="checkbox"/> QY: under/over voltage protector <input type="checkbox"/> FL: Shunt release

6000A

FDM16-63

1P, 2P, 3P, 4P,
80A, 100A, 125A

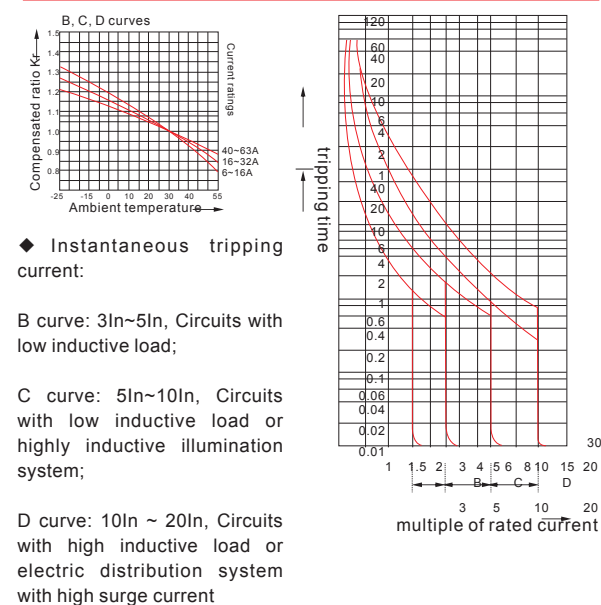


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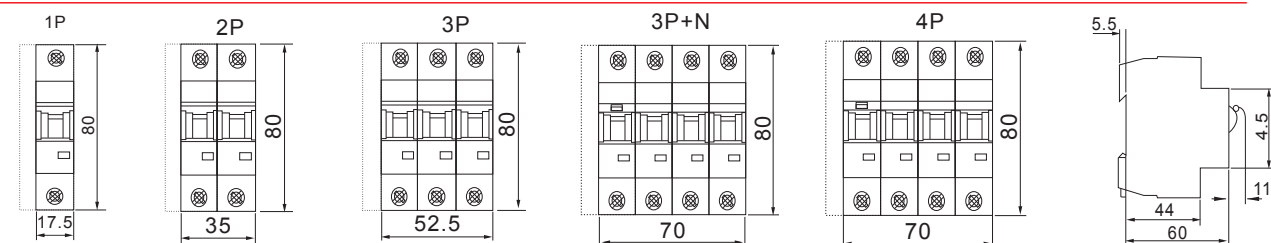


DL7-63

B, C Tripping curve(see graphics 1):



Overall & installation dimensions



DLF7-63



Technical Data DL7-63

Standards	AS/NZ 61898 - 1
Poles	1, 1P+N, 2, 3, 3P+N, 4P
Magnetic tripping characteristics	B, C, D
Rated current	2, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated short-circuit capacity(Icn):	3kA, 4.5kA, 6kA
Rated voltage	230/400V
Frequency	50/60
Maximum service voltage	264
Contact position indication	Yes
Energy limiting class:	3
Electrical Life:	>8000
Mechanical Life:	>20000
Connection terminal:	<input type="checkbox"/> Screw terminal <input type="checkbox"/> Pillar terminal with clamp
Connection capacity:	1~16mm
Installation:	<input type="checkbox"/> Symmetrical DIN rail 35mm <input type="checkbox"/> Panel mounting
Accessories:	<input type="checkbox"/> OF: Auxiliary contact <input type="checkbox"/> FB: Auxiliary alarm <input type="checkbox"/> QY: under/over voltage protector <input type="checkbox"/> FL: Shunt release

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DD7-100



DD7-100

Application

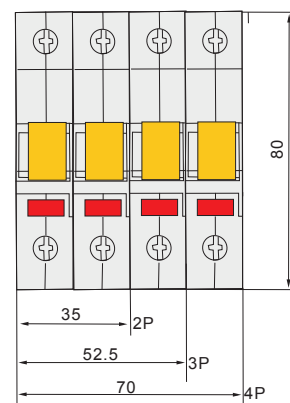
It is a main switch only, without overload protection. It works to connect to cut off the load circuit. When it works as main switch, it may also trip when some of its sub-circuit faulty. In such situation, it functions as main switch to function as earlier circuit protection.



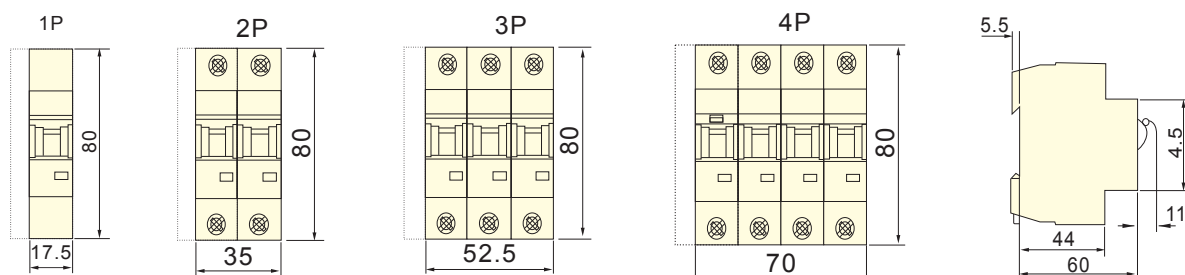
Technical data

- ◆ Standard: IEC60947-3
- ◆ Rated current: 100 A
- ◆ Rated voltage: 50 Hz, 230V/400V
- ◆ Rated operating current: 32A, 63A, 80A, 100A
- ◆ Rated short time withstand capacity: 25 KA(connect 100A fuse protector)
- ◆ Pole: 1P, 2P, 3P, 4P
- ◆ Electric life: ≥1500 times
- ◆ Mechanical life: ≥1000 times
- ◆ Using type: AC-22
- ◆ Protection class: IP 20
- ◆ Operating temperature: -5 + 40°C
- ◆ Altitude: ≤ 2000m
- ◆ Pollution level: grade 3
- ◆ Installation: IEC standard, DIN rail 35mm
- ◆ Installation: the main switch be vertically installed, handle up means current connection.
- ◆ Place: no obvious or frequent vibration or impact

Overall & installation dimensions



Overall & installation dimensions



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DLF7-63

DLF7-63

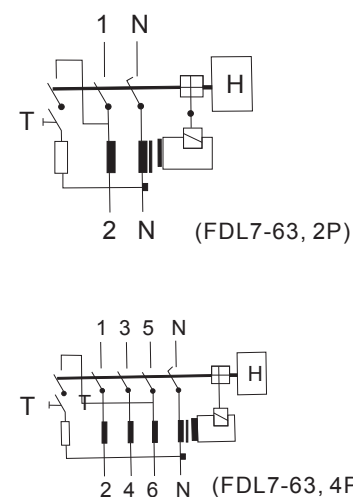


Technical Data

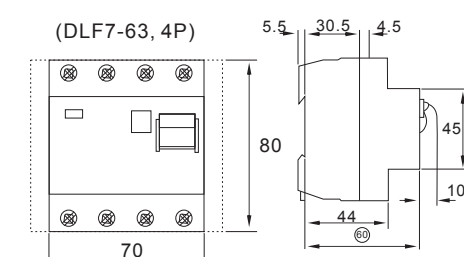
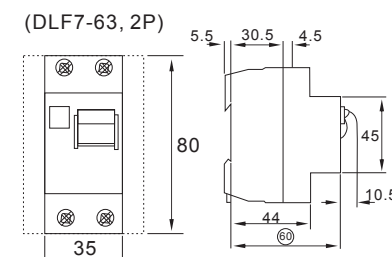
DLF7-63

Standards	AS/NZ 61008
Poles	2P, 4P
Rated tripping current(mA):	30, 100, 300
Rated current	6, 10, 16, 25, 32, 40, 50, 63A
Residual current characteristics:	AC / A type
Rated voltage	230/400V
Frequency	50/60
Mode:	electro-magnetic type
Contact position indication	Yes
Energy limiting class:	3
Electrical Life:	>4000
Mechanical Life:	>20000
Connection terminal:	<input type="checkbox"/> Screw terminal <input type="checkbox"/> Pillar terminal with clamp
Connection capacity:	1~16mm
Installation:	<input type="checkbox"/> Symmetrical DIN rail 35mm <input type="checkbox"/> Panel mounting
Accessories:	<input type="checkbox"/> OF: Auxiliary contact <input type="checkbox"/> FB: Auxiliary alarm <input type="checkbox"/> QY: under/over voltage protector <input type="checkbox"/> FL: Shunt release

Electrical Diagram:



Overall & installation dimensions





1P+N RCBO 6kA, electronic

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6000A
FDR16-40N

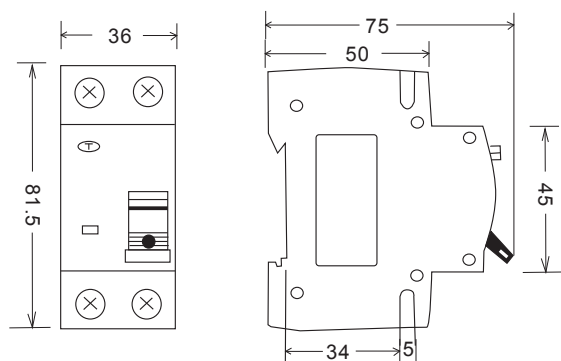


FDR16-40

Construction and Feature

- ◆ Provides protection against earth fault/leakage current and function of isolation
- ◆ Provides protection against over-voltage
- ◆ Applicable to terminal and pin/fork type busbar connection
- ◆ Contact position indication
- ◆ Fire resistant plastic parts endures abnormal heating and strong impact
- ◆ Automatically disconnect the circuit when earth fault/leakage current occurs and exceeds the rated sensitivity.
- ◆ Independent of power supply and line voltage and free from external interference, voltage fluctuation.

Overall & installation dimensions



Technical Data	FDR16-40N
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	AC, A
Rated current(A)	3, 6, 10, 16, 20, 25, 32, 40
Rated residual current(mA)	30, 100, 300
Calibration temperature	30°C
Rated voltage 1P	230V
Frequency	50/60
Tripping duration:	Instaneous<0.1s
Residual making and breaking capacity	2000A
Short circuit capacity	6000A
Endurance (operations) electrical	>4,000
mechanical	>10,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	Yes
Accessories	No
Dimensions (mm)	75(H)81.5(L)36(W)
Weight (g)	125



1P+N RCBO 10kA, electro-magnetic

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10000A
DR7-40N

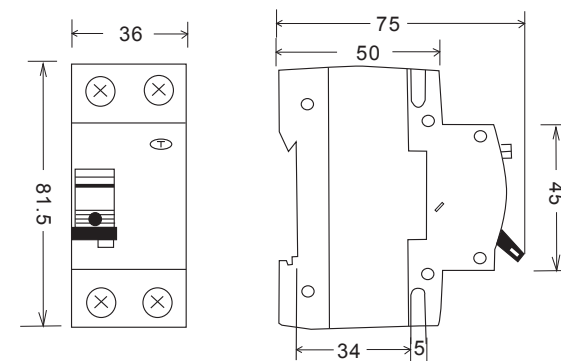


DR7-40N

Features & Advantages:

- ◆ Provides protection against earth fault/leakage current and function of isolation
- ◆ Provides protection against over-voltage
- ◆ Applicable to terminal and pin/fork type busbar connection
- ◆ Contact position indication
- ◆ Fire resistant plastic parts endures abnormal heating and strong impact
- ◆ Automatically disconnect the circuit when earth fault/leakage current occurs and exceeds the rated sensitivity.
- ◆ Independent of power supply and line voltage and free from external interference, voltage fluctuation.

Overall & installation dimensions



INNOVATION

Electro-magnetic

Technical Data	DR7-40N
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	AC, A
Rated current(A)	3, 6, 10, 16, 20, 25, 32, 40
Rated residual current(mA)	30, 100, 300
Calibration temperature	30°C
Rated voltage 1P	230V
Frequency	50/60
Tripping duration:	Instaneous<0.1s
Residual making and breaking capacity	2000A
Short circuit capacity	10000A
Endurance (operations) electrical	>4,000
mechanical	>10,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	Yes
Accessories	No
Dimensions (mm)	75(H)81.5(L)36(W)
Weight (g)	125

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10kA, 6kA

DR7-40 10A
FDR16-40 6kA

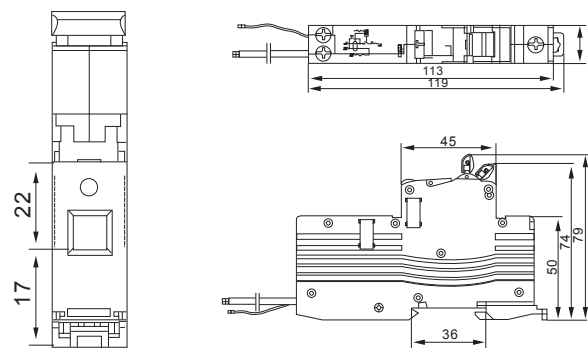


DR7-40: 10kA
FDR16-40: 6kA

Construction and Feature

- ◆ Provides protection against earth fault/leakage current and function of isolation
- ◆ Provides protection against over-voltage
- ◆ Applicable to terminal and pin/fork type busbar connection
- ◆ Contact position indication
- ◆ Fire resistant plastic parts endures abnormal heating and strong impact
- ◆ Automatically disconnect the circuit when earth fault/leakage current occurs and exceeds the rated sensitivity.
- ◆ Independent of power supply and line voltage and free from external interference, voltage fluctuation.

Overall & installation dimensions



Technical Data	DR7-40 FDR16-40
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	AC
Rated current(A)	6,10,16,20,25,32, 40
Rated residual current(mA)	30, 100,300
Calibration temperature	30°C
Rated voltage 1P	240V
Frequency	50/60
Maximum service voltage	264
Tripping duration:	Instaneous<0.1s
Power supply	Line & Load
Selectivity class	3
Residual making and breaking capacity	2000A
Short circuit capacity	10000&6000A
Isolation application (IEC 60947-2)	Yes
Insulation resistance (Mohm)	1,000
Insulation voltage (V)	500
Dielectric rigidity (V)	2,500
Vibration resistance	1.5g
Endurance (operations) electrical	>4,000
mechanical	>20,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	Yes
Accessories	No
Dimensions (mm)	72(H)81(L)18(W)
Weight (g)	105

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6000A

DR6-40

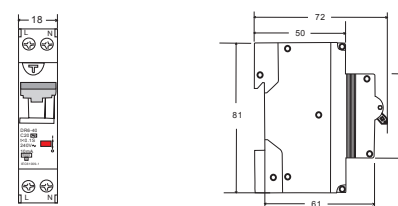


DR6-40

Features & Advantages:

- ◆ **The slimmest 6kA RCBO in this world.** the newest design compared with competitors.
- ◆ **Genuine 6kA fault level** declared after hundreds of seriously passed test. Suit both residential and commercial applications.
- ◆ **Top and bottom line and load compatible** newest design for ease of installation.
- ◆ **Two pole safety feature allows switching of both Active and Neutral contacts.** Active contacts always connect later and break earlier;
- ◆ Single module is ideal to save valuable switchboard space.

Overall & installation dimensions



INNOVATION

RCBO

DR6-40

- Width = 18mm
- Breaking Capacity = 6000A
- Approval: CB S

Technical Data	DR6-40
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	A, AC
Rated current(A)	6, 10, 16, 25, 32, 40
Rated residual current	10mA, 30 mA, 100mA
Calibration temperature	30°C
Rated voltage 1P	240V
Frequency	50/60
Maximum service voltage	264
Tripping Duration:	Instaneous<0.1s
Power supply	Top or bottom
Short circuit capacity	6000&4500A
Isolation application (IEC 60947-2)	Yes
Endurance (operations) electrical	>6,000
mechanical	>20,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	Yes
Accessories	No
Dimensions (mm)	72(H)81(L)18(W)
Weight (g)	105

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6&4.5kA
DL7NL-40



DL7NL-40

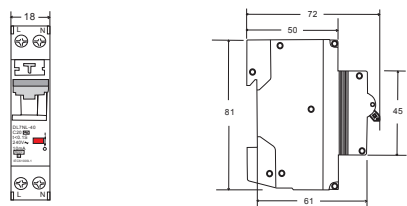
Features & Advantages:

- ◇ Top and bottom line and load compatible newest design for ease of installation.
- ◇ Two pole safety feature allows switching of both Active and Neutral contacts. Active contacts always connect later and break earlier;
- ◇ Single module is ideal to save valuable switchboard space.

DL's newly released 6kA RCBO is based on 10 years committed R&D. The whole series cover 3kA, 4.5kA and this latest 6kA RCBO.

Technical Data	DL7NL-40
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	A, AC
Rated current(A)	6, 10, 16, 25, 32, 40
Rated residual current	10mA, 30 mA, 100mA
Calibration temperature	30°C
Rated voltage 1P	240V
Frequency	50/60
Maximum service voltage	264
Tripping Duration:	Instaneous<0.1s
Power supply	Top or bottom
Short circuit capacity	6000&4500A
Isolation application (IEC 60947-2)	Yes
Endurance (operations) electrical	>6,000
mechanical	>20,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	Yes
Accessories	No
Dimensions (mm)	72(H)81(L)18(W)
Weight (g)	105

Overall & installation dimensions



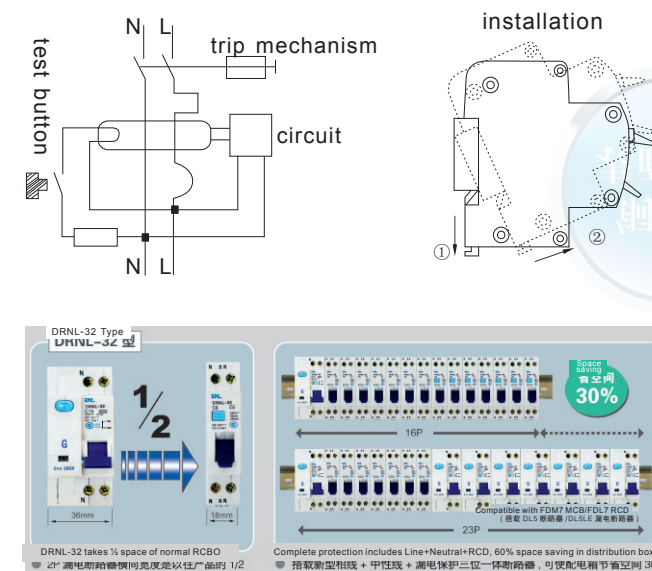
National **nls**®

3000A
DRNL-32

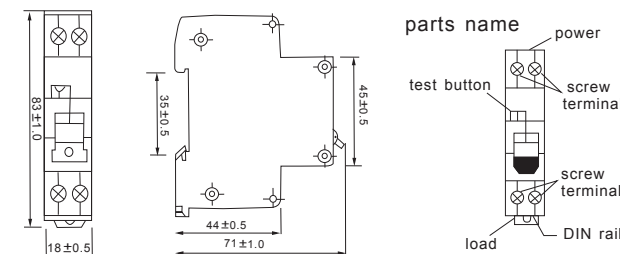


DRNL-32

Electrical Diagram & Installation:



Overall & installation dimensions



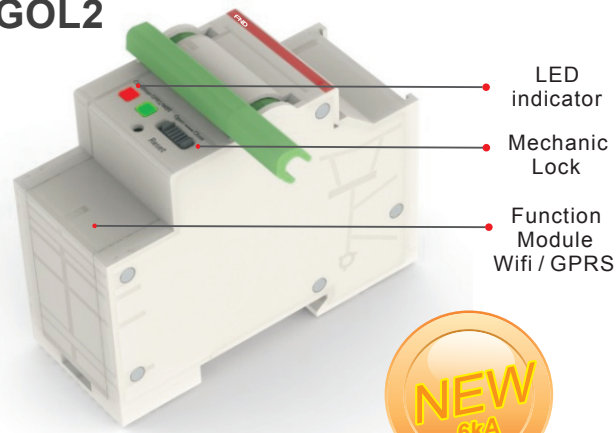
Technical Data	DRNL-32
Standards	AS/NZS 61009 - 1
Magnetic tripping characteristics	B, C
Residual tripping characteristics	AC
Rated current	6, 10, 16, 20, 25, 32
Rated residual current	10mA, 30 mA
Calibration temperature	30°C
Rated voltage 1P	240V
Frequency	50/60
Tripping Duration:	Instaneous<0.1s
Power supply	Line & Load
Short circuit capacity	4500A, 3000A
Endurance (operations) electrical	>6,000
mechanical	>10,000
Protection degree outside	IP20
inside enclosure	IP40
Self extinguishing degree (UL 94)	V2
Tropicalisation (IEC 60068-2)	+55°C/95% RH
Operating temperature	-5/+55°C
Storage temperature	-25/+70°C
Terminal capacity (top & bottom) min / max	1-16mm
Terminal torque (top / bottom)	3
Busbar systems	No
Accessories	No
Dimensions (mm)	71(H)81(L)18(W)
Weight (g)	85

National NLS®

Wifi CB

Smart Unit

GOL2



Technical data

Controlling loop
 Voltage: 230VAC, 50Hz
 Minimum duration time for reclosing: >200mS
 Responding time: <200mS
 Power consumption: <1W
 Protection degree MCB: IP20
 Protection degree with box: IP55
 Insulation degree: II
 Insulation voltage(Ui): 400V
 Rated impulse withstand voltage (Uimp): 6000V
 Operating temperature: -25~60
 Storage temperature: -40 ~ 70



Features of smart breaker

1. This second generation smart unit GOL2 is fully and newly updated unit based on the first generation of GOL1.
2. This new smart unit is more compact: only half size of GOL1
3. GOL2 includes function module, LED indicator, mechanic lock, easier reset, etc.
4. This new smart unit GOL2 is fully compatible with all our new compact 9mm MCB, single pole RCBO, 10kA MCB, and IP65 waterproof box, etc.



1. Smart Unit GOL2



2. Micro Breaker 6kA FDMC-40



3. RCBO / 6kA DL7NL-40



4. MCB / 10kA DL7



5. BOX / IP65 56CB4N



Supporting systems
 Android iOS

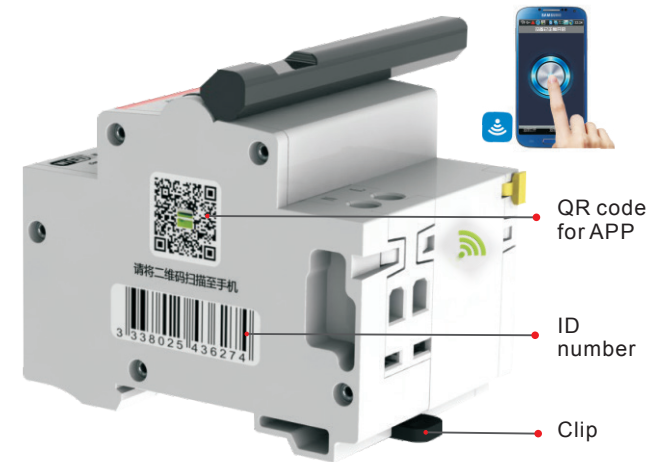
National NLS®

Smart box

INNOVATION

Smart Unit

GOL1



Technical data

Controlling loop
 Voltage: 230VAC, 50Hz
 Minimum duration time for reclosing: >200mS
 Responding time: <200mS
 Power consumption: <1W
 Protection degree MCB: IP20
 Protection degree with box: IP55
 Insulation degree: II
 Insulation voltage(Ui): 400V
 Rated impulse withstand voltage (Uimp): 6000V
 Operating temperature: -25~60
 Storage temperature: -40 ~ 70

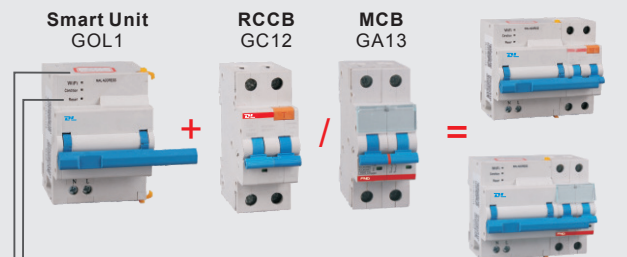


Features of smart breaker

1. We apply internationally generic high-tech to realize remote intelligent controlled by phone.
2. To reclose the tripped MCB based on IEC standard;
3. Modular assembly system enables customers to autonomously choose the controlling mode: GPRS and wifi are both available.
4. The product has automatic memory function, even when WiFi and GPRS are both unavailable, and realize automatic closing within 5~10 inutes.

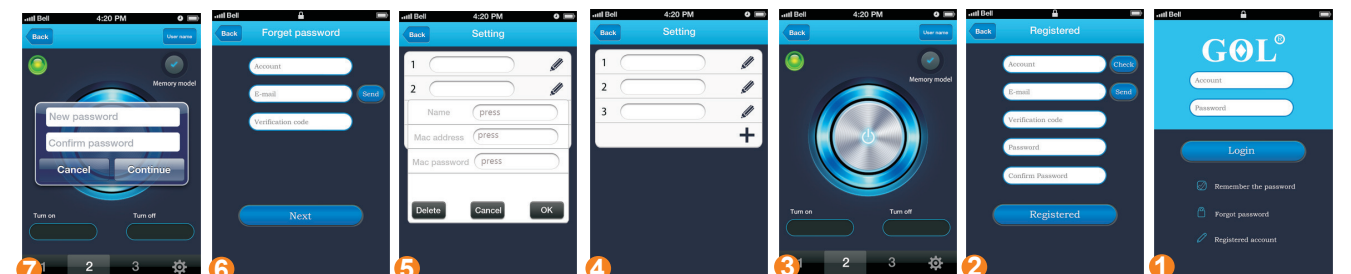


1. Connect smart unit GOL1 with RCCB and MCB



2. Press "RESET", the smart unit GOL1 will be on standby to connect. You may scan or input product serial number, which is unique ID number for each smart unit GOL1

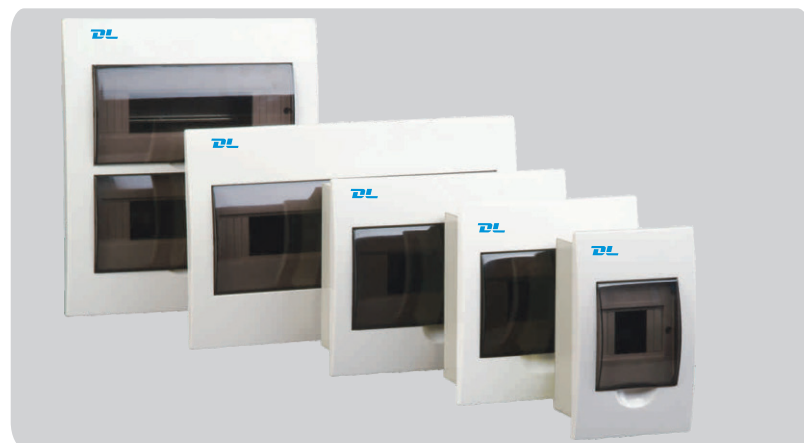
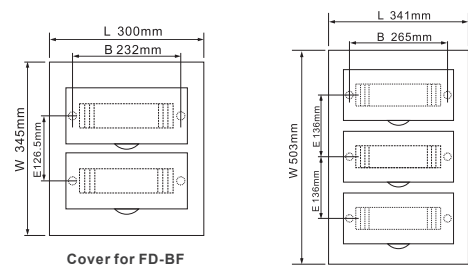
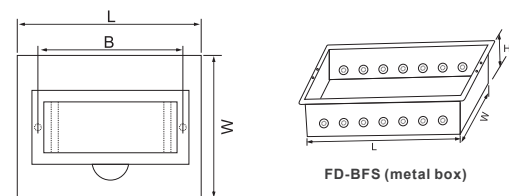
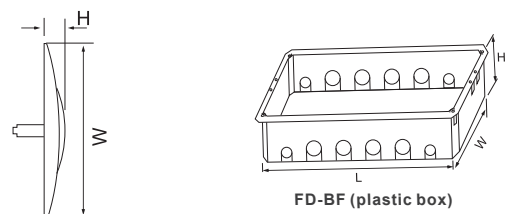
3. After installation, test 2~5 times to make sure all function well. Detailed operation as below:



Flush Mounting
FDBF



FDBF-32



□ Installation dimension of flush mounting type plastic distribution box

Model	Dimension Specification	L	W	H
FDBF-04	4ways	112	200	66
FDBF-06	6ways	150	200	66
FDBF-08	8ways	186	200	66
FDBF-12	12ways	256	200	66
FDBF-15	15ways	306	216	76
FDBF-18	18ways	363	216	76
FDBF-24	24ways	257	310	76
FDBF-32	36ways	393	455	76

□ Installation dimension of flush mounting type metal distribution box

Model	Dimension Specification	L	W	H
FDBF-04S	4ways	107	190	85
FDBF-06S	6ways	143	190	85
FDBF-08S	8ways	179	190	85
FDBF-12S	12ways	250	190	85
FDBF-15S	15ways	306	190	85
FDBF-18S	18ways	361	217	85
FDBF-24S	24ways	252	310	85
FDBF-32S	36ways	290	475	85

□ Dimension of plastic cover for flush mounting type distribution box

Model	Dimension Specification	L	W	H	B
FC-04	4ways	136	222	27	86
FC-06	6ways	172	222	27	122
FC-08	8ways	208	222	27	158
FC-12	12ways	280	222	27	230
FC-15	15ways	334	222	27	283
FC-18	18ways	398	252	27	338
FC-24	24ways	300	345	27	232
FC-32	36ways	341	503	27	265

Surface Mounting
FDBS



FDBS-32



□ Dimension of surface mounting type plastic distribution box

Model	Dimension Specification	L	W	H
FDBS-04	4 ways	112	200	96
FDBS-06	6 ways	148	200	97
FDBS-08	8 ways	184	200	96
FDBS-12	12 ways	256	200	63
FDBS-15	15 ways	306	200	63
FDBS-18	18 ways	364	200	63
FDBS-24	24 ways	270	325	100
FDBS-36	36 ways	305	473	100

Overall & installation dimensions

