



Masterpact NT and NW

Catalogue 2019
LV power circuit breakers
and switch-disconnectors



- WEB3 cat.2018

schneider-electric.com

Life Is On

Schneider
Electric



Green Premium™

Endorsing eco-friendly products in the industry



Green Premium™
Product

Green Premium is the only label that allows you to effectively develop and promote an environmental policy whilst preserving your business efficiency. This ecolabel guarantees compliance with up-to-date environmental regulations, but it does more than this.

Over 75% of Schneider Electric manufactured products have been awarded the Green Premium ecolabel



Discover what we mean by green ...

Check your products!

Schneider Electric's Green Premium ecolabel is committed to offering transparency, by disclosing extensive and reliable information related to the environmental impact of its products:

RoHS

Schneider Electric products are subject to RoHS requirements at a worldwide level, even for the many products that are not required to comply with the terms of the regulation. Compliance certificates are available for products that fulfil the criteria of this European initiative, which aims to eliminate hazardous substances.

REACH

Schneider Electric applies the strict REACH regulation on its products at a worldwide level, and discloses extensive information concerning the presence of SVHC (Substances of Very High Concern) in all of these products.

PEP: Product Environmental Profile

Schneider Electric publishes complete set of environmental data, including carbon footprint and energy consumption data for each of the lifecycle phases on all of its products, in compliance with the ISO 14025 PEP ecopassport program. PEP is especially useful for monitoring, controlling, saving energy, and/or reducing carbon emissions.

EoLI: End of Life Instructions

Available at the click of a button, these instructions provide:

- Recyclability rates for Schneider Electric products.
- Guidance to mitigate personnel hazards during the dismantling of products and before recycling operations.
- Parts identification for recycling or for selective treatment, to mitigate environmental hazards/ incompatibility with standard recycling processes.

Masterpact NT and NW

The standard for power circuit breakers around the world.

Over the years, other major manufacturers have tried to keep up by developing products incorporating Masterpact's most innovative features, including the breaking principle, modular design and the use of composite materials.

In addition to the traditional features of power circuit breakers (withdrawability, selectivity and low maintenance), Masterpact NT and NW ranges offer built-in communications and metering functions, all in optimised frame sizes.

Masterpact NT and NW incorporate the latest technology to enhance both performance and safety. Easy to install, with user-friendly, intuitive operation and environment-friendly design, Masterpact NT and NW are, quite simply, circuit breakers of their time.



Covering all your applications

Masterpact meets the needs of all types of LV electrical distribution networks.



Building

- > Hotels
- > Hospitals
- > Offices
- > Retail

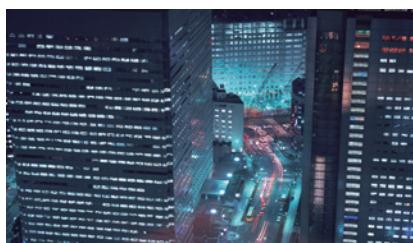


Data Centres and Networks



Industry

- > Mining and minerals
- > Automotive
- > Food and beverage
- > Chemical industry



Energy and Infrastructures

- > Airports
- > Oil and gas
- > Water
- > Electrical energy
- > Marine



An answer to specific applications

- > 1000 V for mining applications
- > Direct current networks
- > Corrosion protection
- > Switch-disconnectors and earthing switches
- > Automatic transfer switching equipment (ATSE) for emergency power systems
- > High electrical endurance applications: Masterpact NT H2 is a high performance device offering high breaking capacity (Icu: 50 kA/480 V) and a high level of selectivity, all in a small volume.

Whenever high short circuit is involved

Masterpact UR is a low voltage ultra rapid opening circuit breaker. Its fault detection rate and its reaction speed mean that it will stop a short circuit from developing. As a result, this is the key component in very high power installations equipped with a number of power sources connected in parallel.

Masterpact UR truly comes into its own when short circuit currents can reach very high levels and when continuity of service is a must: **offshore installations, cement plants, petrochemical industry**. It is also especially suited to electrical installations on board merchant.



All standards

Different Masterpact offers complying with different international standards are available :

- IEC 60947
- UL489 / CSA C22.2 No. 5
- ANSI C37 / UL1066

CCC, EAC and other local certifications are available for the IEC rated products.

Two families and three frame sizes

The range of power circuit breakers includes two families:

- Masterpact NT, the world's smallest true power circuit breaker, with ratings from 630 to 1600 A
- Masterpact NW, in two frame sizes, one from 800 to 4000 A and the other from 4000 to 6300 A.

5 performance levels

- N1 - for standard applications with low short-circuit levels.
- H1 - for industrial sites with high short-circuit levels or installations with two parallel-connected transformers.
- H2 - high-performance for heavy industry where very high short-circuits can occur.
- H3 - for incoming devices supplying critical applications requiring both high performance and a high level of selectivity.
- L1 - for high current-limiting capability and a selectivity level (37 kA) as yet unequalled by any other circuit breaker of its type; intended for the protection of cable-type feeders or to raise the performance level of a switchboard when the transformer power rating is increased.

3

sizes:



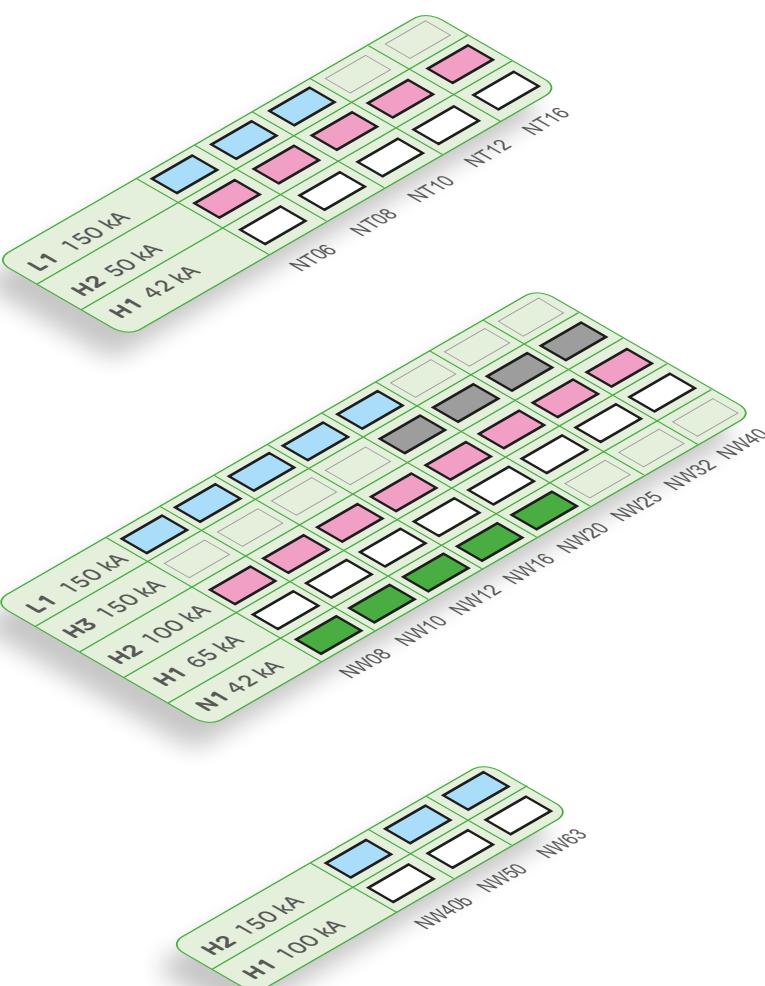
Masterpact NT 630 to 1600 A



Masterpact NW 800 to 4000 A



Masterpact NW 4000 to 6300 A



Optimised volumes and ease of installation

Aiming at standardising electrical switchboards at a time when installations are increasingly complex, Masterpact provides an unequalled simplicity, both concerning choice and installation.

The smallest circuit breaker in the world

Masterpact NT innovates by offering all the performance of a power circuit breaker in an extremely small volume. The 70 mm pole pitch means a three-pole drawout circuit breaker can be installed in a switchboard section 400 mm wide and 400 mm deep.

Maximum security

The arc chutes absorb the energy released during breaking, thus limiting the stresses exerted on the installation.

They filter and cool the gases produced, reducing effects perceptible from the outside.

More than

60

patents are used to design Masterpact

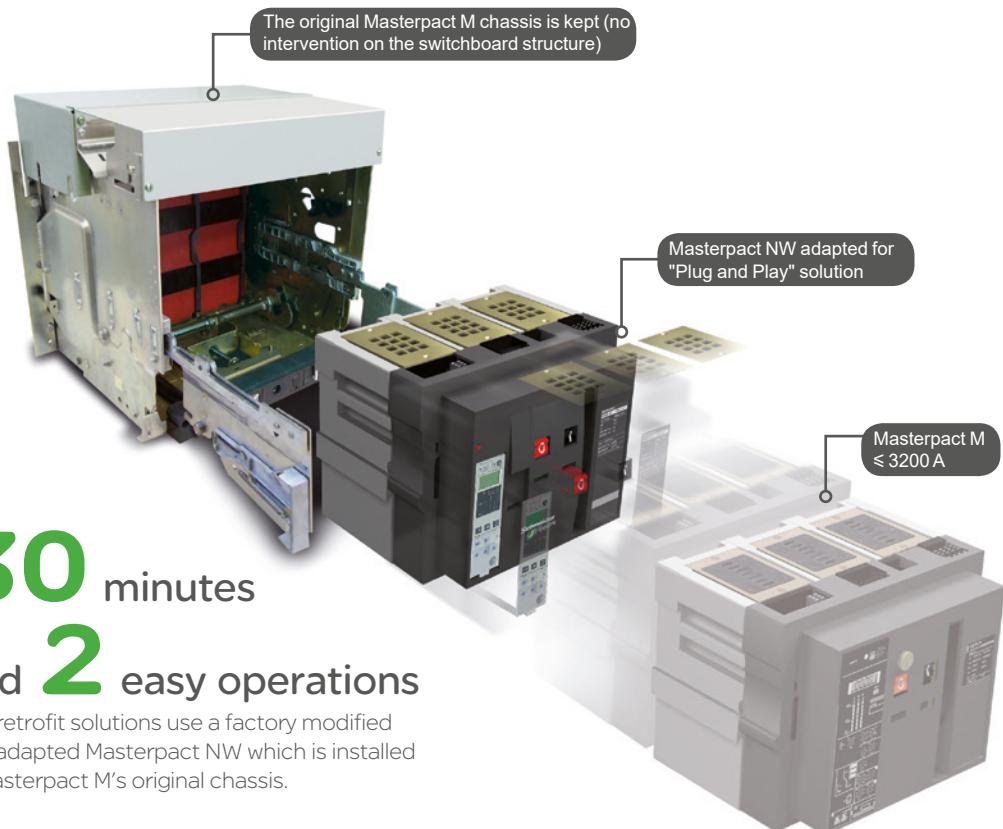
Optimised volumes

Up to 4000 A, Masterpact NW circuit breakers are all the same size, the same as the old M08 to 32 range.

From 4000 to 6300 A, there is just one size.

Retrofit solutions

- Special connections terminals are available to replace a fixed or a drawout Masterpact M08 to 32 with a Masterpact NW, without modifying the busbars or the door cut-out.
- "Plug and Play" retrofit solution: this solution enables retrofitting of Masterpact M units with considerably reducing on-site intervention time and getting the performance of last generation device.



30 minutes
and **2** easy operations

The retrofit solutions use a factory modified and adapted Masterpact NW which is installed in Masterpact M's original chassis.

Standardisation of the switchboard

With optimised sizes, the Masterpact NT and NW ranges simplify the design of switchboards and standardise the installation of devices:

- a single connection layout for Masterpact NT
- three connection layouts for Masterpact NW:
 - one from 800 to 3200 A
 - one for 4000 A
 - one up to 6300 A
- horizontal or vertical rear connections can be modified on-site by turning the connectors 90° or they can even be replaced by front connection terminals
- identical connection terminals for the fixed or draw-out version for each rating (Masterpact NW)
- front connection requires little space because the connectors not increase the depth of the device.



Practical installation solutions

The Masterpact NW range further improves the installation solutions that have built the success of its predecessors:

- incoming connection to top or bottom terminals
- no safety clearance required
- connection:
 - horizontal or vertical rear connection
 - front connection with minimum extra space
 - mixed front and rear connections
- 115 mm pole pitch on all versions
- no derating up to 55 °C and 4000 A.



Compliance with environmental requirements

The materials used for Masterpact are not potentially dangerous to the environment and are marked to facilitate sorting for recycling.

Production facilities are non-polluting in compliance with the ISO 14001 standard.

Keep your Masterpact NT/NW features year after year by performing requested maintenance

To maintain Masterpact's operating and safety characteristics from the beginning to the end of its service life, Schneider Electric requests that systematic checks and periodic maintenance be carried out by qualified personnel, as indicated in the **"Masterpact Maintenance Guide"**.

The Maintenance Guide defines 3 types of maintenance:

- › the **corrective maintenance** repairs a system in view of fulfilling a required function
- › the **preventive maintenance** consists in carrying out, at predetermined intervals, checks intended to reduce the probability of a failure or deterioration in the operation of a system
- › the **predictive maintenance**, based on the recording and analysis of system parameters, is the means to detect drift from the initial state and significant trends. Using predictive maintenance makes possible to anticipate on the corrective action required to ensure equipment safety and continuity of service, and plan the action for the most convenient time.



The Maintenance Guide is available on Internet (www.schneider-electric.com) and provides detailed information on:

- the types of maintenance required, depending on the criticality of the protected circuit
- the risks involved if the component ceases to operate correctly
- what is understood by the terms normal, improved and severe environment and operating conditions
- the periodic preventive maintenance operations that should be carried out under normal environment and operating conditions as well as the level of competence required for the operations
- the environment and operating conditions that accelerate device ageing.



Architecture overview

Smart Panels

Enerlin'X



Ethernet-ready Smart Panels

Ethernet-ready Smart Panels enable electrical distribution control and expertise. 'Protect' - 'Measure' - 'Connect' are the 3 pillars of their technology.

PB11922.eps



4- Act

3- Connect

Give a voice to the panel

Safe Ethernet network data transmission is now part of the intrinsic design of protection and metering devices

2- Measure

Keeping a close eye on energy flows

The switchboard plays a key role in capturing building-related data, by gathering the critical protection and metering components.

1- Protect

Electrical protection is at the core of Smart Panel

Reliable and high-performance technology is present in every breaker and every residual current device.

Future savings, peace-of-mind

Access to Smart Panel status, values, is essential for taking advantages of monitoring and management services, locally or remotely.

Act in small/medium buildings

with FDM 128, Com'X 510, Power View, EcoStruxure™ Facility Expert

PB1101-60.eps



Electrical device monitoring and control
with FDM 128, locally



Optimizing energy-efficiency

- Visualize, record energy consumption and WAGES.
- Comply with regulation .

D038598.ai



Com'X 510 web pages direct display, or Cloud based pages from other devices with Power View.



Improving continuity of service

- Get instant notifications
- Manage with assets-maintenance platform
- Get and analyze data for quick crisis-recovery

D038599.ai



Distance management with EcoStruxure™ Facility Expert on Smartphone, tablet, PC



Increasing maintenance efficiency

- Operate preventive maintenance tools
- Follow maintenance & planning
- Provide business owner instant access to maintenance reports

Architecture overview

Day-to-day energy management

>> Power availability & quality, energy performance

For simply dealing with building user's needs and energy constraints.

EcoStruxure™ Building Management provides electrical management, monitoring and energy accounting.

Energy decisions are often crucial in large critical buildings, they must be informed.

EcoStruxure™ Power Monitoring Expert (software for PC) collects Smart Panels values to provide expert analysis.

Act in large non-critical buildings

with EcoStruxure™ Energy Expert



Managing equipment & key assets

- Check operating status, faults on custom on-line diagrams.



Monitoring electrical network

- Observe voltage disturbances, harmonics on graphics.
- Read power factor.



Accounting energy

- Record power meter data on dashboards.
- Allocate energy consumption with costs.
- Follow conservation goals.

Act in large critical buildings

with EcoStruxure™ Power Monitoring Expert^[1]



Analysing Power Events

- Speed up downtime crisis recovery
- Determine incident root cause, events sequence.
- Troubleshoot power quality issues.



Monitoring Power quality

- Be alerted of equipment affected by power quality issue.
- Compare power quality against industry standards.
- Collect facts for future discussion with Utility.



Analysing Energy Performance

- Evaluate building energy saving performance;
- Identify underperforming loads;
- Analyze Energy Conservation Measures (ECMs) according ISO50001 program.



[1] EcoStruxure™ Power Monitoring Expert, <http://pmedemo.biz/web/>
ID: demo & Password: demo

NT06 to NT16 fixed circuit breakers

Circuit breakers

A Masterpact fixed circuit breaker is described by 4 catalogue numbers corresponding to:

■ the basic circuit breaker

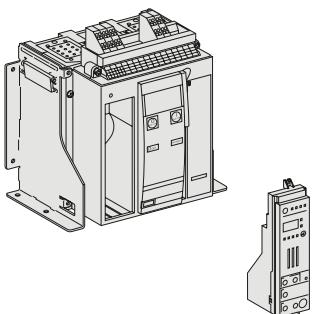
■ a control unit

■ a top connection

■ a bottom connection.

A communication option and various auxiliaries and accessories may also be added.

DB1170811eps



Basic circuit breaker

Type H1

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NT02	250	42	47111
NT06	630	42	47110
NT08	800	42	47120
NT10	1000	42	47130
NT12	1250	42	47140
NT16	1600	42	47150

Type H2

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NT06	630	50	47113
NT08	800	50	47123
NT10	1000	50	47131
NT12	1250	50	47141
NT16	1600	50	47151

Type L1

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NT06	630	150	47112
NT08	800	150	47122
NT10	1000	150	47132

Micrologic control unit

"ammeter" A

		3P/4P
Micrologic 2.0 A	basic protection	47282
Micrologic 5.0 A	selective protection	47285
Micrologic 6.0 A	selective + earth-fault protection	47286
Micrologic 7.0 A	selective + earth-leakage protection	47287

"energy" E

		3P/4P
Micrologic 2.0 E	basic protection	47280
Micrologic 5.0 E	selective protection	47283
Micrologic 6.0 E	selective + earth-fault protection	47288

"power meter" P

		3P/4P
Micrologic 5.0 P	selective protection	47289
Micrologic 6.0 P	selective + earth-fault protection	47290
Micrologic 7.0 P	selective + earth-leakage protection	47291

"harmonic meter" H

		3P/4P
Micrologic 5.0 H	selective protection	47293
Micrologic 6.0 H	selective + earth-fault protection	47294
Micrologic 7.0 H	selective + earth-leakage protection	47295

Communication option

COM (BCM-ULP)	47405
Eco COM module (BCM-ULP)	47407
IFE Ethernet interface for LV breaker	LV434001
Ethernet interface for LV breakers and gateway	LV434002
IFM Modbus-SL interface module	LV434000
I/O application module	LV434063

Brand option

Square D brand	Label	47802
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Auxiliaries and accessories:

■ for fixed devices: see page F-5

■ for fixed or drawout devices: see page F-12.

Switch-disconnector version: see page F-14.

Source changeover assembly: see page F-12.

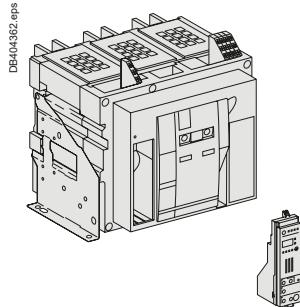
NW08 to NW63 fixed circuit breakers

Circuit breakers

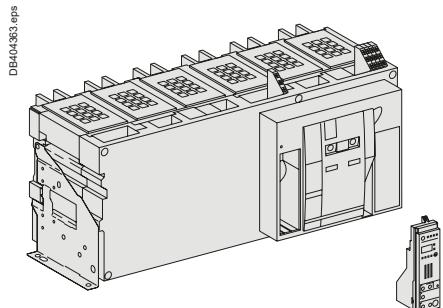
A Masterpact fixed circuit breaker is described by 4 catalogue numbers corresponding to:

- the basic circuit breaker
- a control unit
- a top connection
- a bottom connection.

A communication option and various auxiliaries and accessories may also be added.



Basic circuit breaker < 4000 A.



Basic circuit breaker ≥ 4000 A.

F

(1) Select a 4P basic circuit breaker with neutral on the right page F-34.

All other catalogue numbers are unchanged.

(2) Only for breaker up to 3200A

Auxiliaries and accessories:

- for fixed devices: see page F-20
- for fixed or drawout devices: see page F-28.

Switch-disconnector version: see page F-30.

Source changeover assembly: see page F-28.

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Electric

Basic circuit breaker

Type N1

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NW08	800	42	48000
NW10	1000	42	48014
NW12	1250	42	48028
NW16	1600	42	48042
NW20	2000	42	48056
			48063

Type H1

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NW02	250	65	48189
NW08	800	65	48001
NW10	1000	65	48015
NW12	1250	65	48029
NW16	1600	65	48043
NW20	2000	65	48057
NW25	2500	65	48070
NW32	3200	65	48082
NW40	4000	65	48092
NW40b	4000	100	48106
NW50	5000	100	48112
NW63	6300	100	48118
			48121

Type H2

		3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu			
NW08	800	100	48002
NW10	1000	100	48016
NW12	1250	100	48030
NW16	1600	100	48044
NW20	2000	100	48058
NW25	2500	100	48071
NW32	3200	100	48083
NW40	4000	100	48093
NW40b	4000	150	48107
NW50	5000	150	48113
NW63	6300	150	48119
			48122

Option

Neutral on the right

(1)

Micrologic control unit

"ammeter" A

		3P/4P
Micrologic 2.0 A	basic protection	47282
Micrologic 5.0 A	selective protection	47285
Micrologic 6.0 A	selective + earth-fault protection	47286
Micrologic 7.0 A ⁽²⁾	selective + earth-leakage protection	47287

"energy" E

		3P/4P
Micrologic 2.0 E	basic protection	47280
Micrologic 5.0 E	selective protection	47283
Micrologic 6.0 E	selective + earth-fault protection	47288

"power meter" P

		3P/4P
Micrologic 5.0 P	selective protection	47289
Micrologic 6.0 P	selective + earth-fault protection	47290
Micrologic 7.0 P ⁽²⁾	selective + earth-leakage protection	47291

"harmonic meter" H

		3P/4P
Micrologic 5.0 H	selective protection	47293
Micrologic 6.0 H	selective + earth-fault protection	47294
Micrologic 7.0 H ⁽²⁾	selective + earth-leakage protection	47295

Communication option

COM (BCM-ULP)	48188
Eco COM module (BCM-ULP)	47406
IFE	Ethernet interface for LV breaker
	Ethernet interface for LV breakers and gateway
IFM Modbus-SL interface module	LV434001
I/O application module	LV434002
	LV434000
	LV434063

(1) Select a 4P basic circuit breaker with neutral on the right page F-34.

All other catalogue numbers are unchanged.

(2) Only for breaker up to 3200A

Auxiliaries and accessories:

- for fixed devices: see page F-20

- for fixed or drawout devices: see page F-28.

Switch-disconnector version: see page F-30.

Source changeover assembly: see page F-28.

F-18

NW08 to NW63 drawout circuit breakers

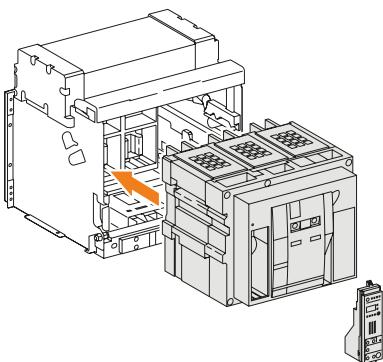
Circuit breakers

A Masterpact drawout circuit breaker is described by 5 catalogue numbers corresponding to:

- the basic circuit breaker
- a control unit
- a chassis
- a top connection
- a bottom connection.

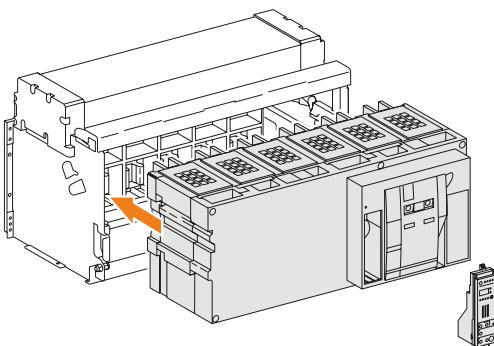
A communication option and various auxiliaries and accessories may also be added.

DB101911EPS



Basic circuit breaker + chassis ≤ 4000 A

DB101912EPS



Basic circuit breaker + chassis ≥ 4000 A

F

Basic circuit breaker

Type N1	3P	4P
In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu		
NW08	800 42	48230 48237
NW10	1000 42	48244 48251
NW12	1250 42	48258 48265
NW16	1600 42	48272 48279
NW20	2000 42	48286 48293

Type H1

In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu		
NW02	250 65	48386 48387
NW08	800 65	48231 48238
NW10	1000 65	48245 48252
NW12	1250 65	48259 48266
NW16	1600 65	48273 48280
NW20	2000 65	48287 48294
NW25	2500 65	48300 48306
NW32	3200 65	48312 48317
NW40	4000 65	48322 48327
NW40b	4000 100	48336 48339
NW50	5000 100	48342 48345
NW63	6300 100	48348 48351

Type H2

In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu		
NW08	800 100	48232 48239
NW10	1000 100	48246 48253
NW12	1250 100	48260 48267
NW16	1600 100	48274 48281
NW20	2000 100	48288 48295
NW25	2500 100	48301 48307
NW32	3200 100	48313 48318
NW40	4000 100	48323 48328
NW40b	4000 150	48337 48340
NW50	5000 150	48343 48346
NW63	6300 150	48349 48352

Type H3

In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu		
NW20	2000 150	48289 48296
NW25	2500 150	48302 48308
NW32	3200 150	48314 48319
NW40	4000 150	48324 48329

Type L1

In (A at 40 °C) Icu (kA for U = 220/440 V) - Ics = 100 % Icu		
NW08	800 150	48233 48240
NW10	1000 150	48247 48254
NW12	1250 150	48261 48268
NW16	1600 150	48275 48282
NW20	2000 150	48290 48297

Option

Neutral on the right

(1)

Micrologic control unit

"ammeter" A	3P/4P
Micrologic 2.0 A	basic protection
Micrologic 5.0 A	selective protection
Micrologic 6.0 A	selective + earth-fault protection
Micrologic 7.0 A ⁽²⁾	selective + earth-leakage protection

"energy" E

"energy" E	3P/4P
Micrologic 2.0 E	basic protection
Micrologic 5.0 E	selective protection
Micrologic 6.0 E	selective + earth-fault protection

"power meter" P

"power meter" P	3P/4P
Micrologic 5.0 P	selective protection
Micrologic 6.0 P	selective + earth-fault protection
Micrologic 7.0 P ⁽²⁾	selective + earth-leakage protection

"harmonic meter" H

"harmonic meter" H	3P/4P
Micrologic 5.0 H	selective protection
Micrologic 6.0 H	selective + earth-fault protection
Micrologic 7.0 H ⁽²⁾	selective + earth-leakage protection

Grounding kit

Grounding kit for Masterpact NW drawout	48559
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(1) Select a 4P basic circuit breaker with neutral on the right page F-34.

All other catalogue numbers are unchanged.

(2) Only for breaker up to 3200 A.