

# Direct access to energy efficiency

Compact NSX ●●● 100-630 A  
Next-generation circuit breakers



Energy  
measurement  
and control



Increased  
energy  
availability



Safety and  
protection

**Schneider**  
Electric



**Schneider Electric Industries SAS**  
89, boulevard Franklin Roosevelt  
F - 92505 Rueil-Malmaison cedex (France)  
Tel : +33 (0)1 41 29 85 00

<http://www.schneider-electric.com>

*As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.*

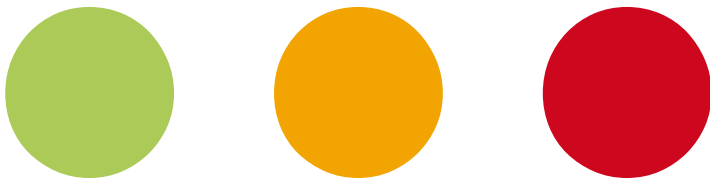


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Design: Schneider Electric  
Photos: Schneider Electric  
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# Intelligent Outlook



## Compact NSX Next-generation circuit breakers

Today, next-generation Compact NSX circuit breakers provide an intelligent outlook and sets the standards of tomorrow.

A power monitoring unit enhances their invariably impeccable protective functions. For the first time, users can monitor both energy and power, offering new performance in a remarkably compact device.





# Combine safety and performance

Compact NSX is innovative – it incorporates monitoring and communication functions, from 40 amps upward, combined with impeccable protection.

## Expert technology

A roto-active contact breaking principle provides better limitation and endurance performance:

- > very high breaking capacity in a very small device,
- > exceptional fault current limitation for extended system life.

## Reduced installation costs

Achieve up to 30 % savings:

- > total discrimination is ensured particularly in the case of miniature circuit breakers for considerable savings at the time of installation,
- > smaller devices mean more economical switchboards for a significant impact on overall cost of installation – no need for over-calibration.

## New breaking capacities

New performance levels improve application targeting:

- > 25 kA – standard low short-circuit level applications, e.g., in service businesses,
- > 36-50 kA – standard applications (industrial plants, buildings and hospitals),
- > 70-100 kA – high performance at controlled cost,
- > 150 kA – demanding applications (marine).

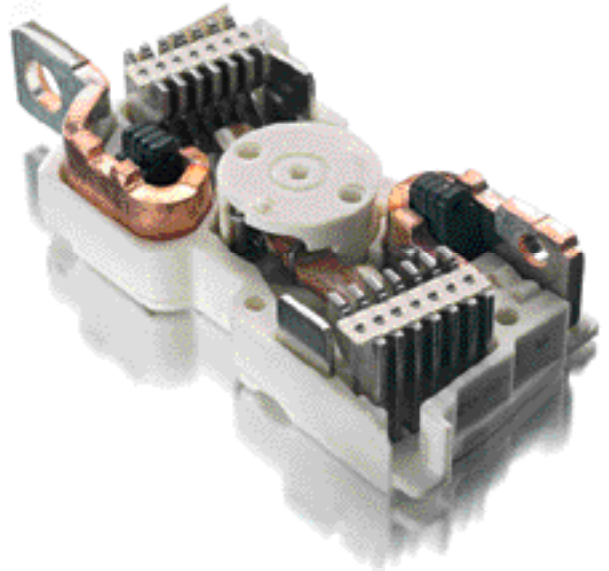
## Enhanced protection for motors

Compact NSX meets the requirements of IEC 60947-4-1 standards for protection of motors:

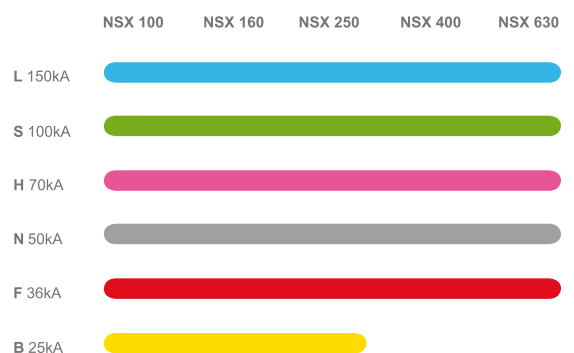
- > well adapted to motor-starting solutions up to 315 kW at 400 V, providing protection against short circuits, overloads, phase unbalance and loss,
- > set up additional protection systems for starting and braking with the motor running, reverse braking, jogging or reversing in complete safety,
- > used in conjunction with a Schneider Electric contactor; Compact NSX complies with the requirements of so-called type 2 coordination.

# 23

new patents pending confirm the innovative character of Compact NSX



Breaking performance at 415 V







# Measure the difference

Compact NSX is a single device, which contains a monitoring unit to control energy consumption and power.

## Integrated monitoring

- > A Micrologic electronic tripping device with next-generation sensors:
  - an "iron" sensor for the power supply to the electronics,
  - an "air" sensor (Rogowski coils) for the measurement part.
- > The originality lies in how Compact NSX measures, processes and displays data, either directly on screen, on the switchboard front panel, or via a monitoring system.

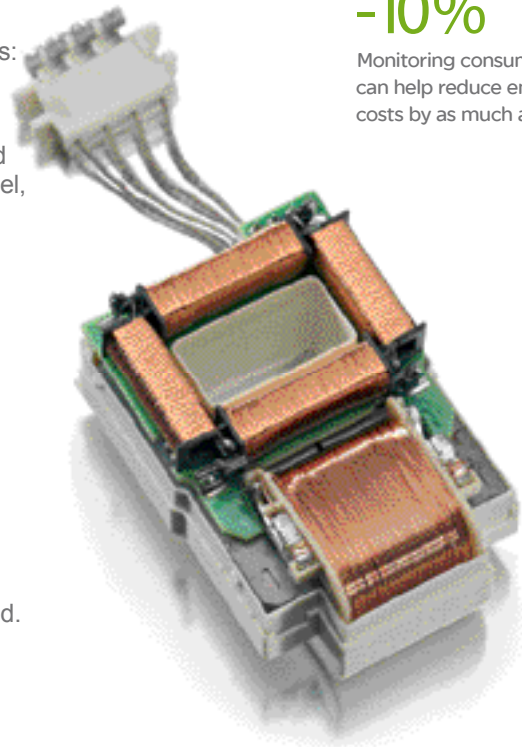
## Accessibility of information

To keep costs under control and ensure service continuity, relevant information must be available in real time:

- > a kilowatt-hour meter helps optimise costs and their allocation,
- > harmonic distortion rate shows the quality of electrical supply,
- > alarm notification secures operational control and maintenance planning,
- > event logs and tables, activated continuously, ensure the installed equipment base operates correctly, so energy efficiency is maximized.

## Installation supervision

Used in conjunction with PowerLogic monitoring software, Compact NSX provides users with a set of parameters and tools to make it easy to monitor installations.



## -10%

Monitoring consumption can help reduce energy costs by as much as 10%.



## ASIC

Electronics (ASIC), independent of measurement, manage protection functions. The high degree of integration in electronics guarantees protection against conducted or radiated interference.





# Opt for service continuity

Compact NSX makes discrimination its main advantage in minimising the impact of short circuits, ensuring service continuity for installations.

## Total discrimination

> With 30 years of experience and as an expert in discrimination, users can be sure of service continuity. Downstream circuit breaker trips as close as possible to the fault, so upstream circuit breaker is not overloaded.

## Service continuity

Adding an SDTAM module allows remote indication of motor overloads and actuation of a contact switch, ensuring total service continuity:

- > the SDTAM switches the contact instead of tripping the circuit breaker,
- > the module allows for machine restart directly from the contact switch without having to operate circuit breakers.

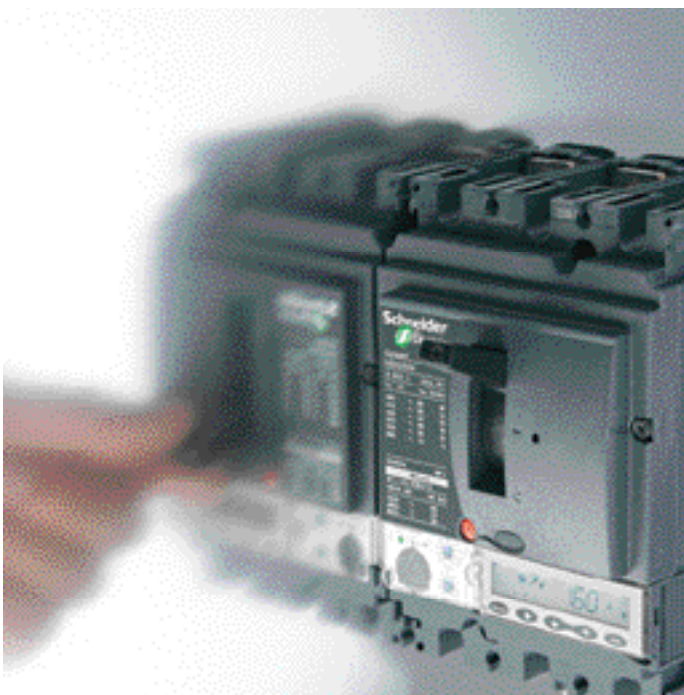
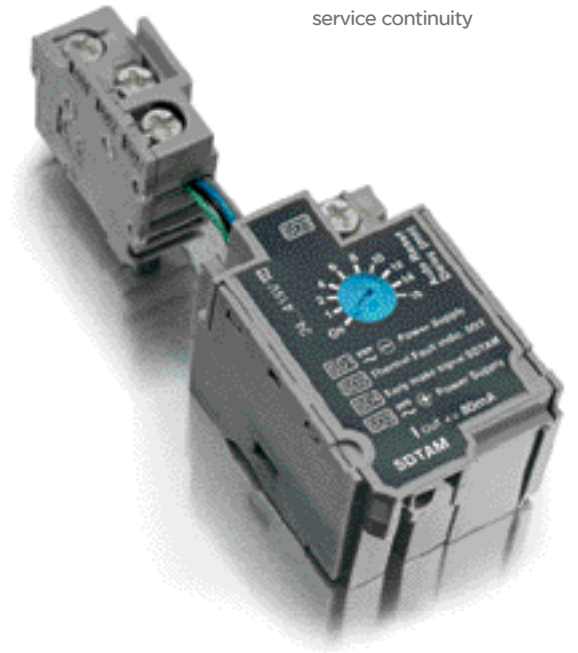
## Preventive maintenance

Maintenance indicators provide information on the number of operations, level of wear on contacts and total load rates. Maintenance is now preventive, avoiding faults.



100%

service continuity



Direct access to maintenance indicators





# Added simplicity

Compact NSX takes the principles of easy installation and use – which made its predecessor so successful – to a higher level.

## Simple in design

- > Installers mount and wire Compact NSX in the same way as Compact NS, which makes engineering for a retrofit or extension simple.
- > Integration in help software, for parameter settings and switchboard installation, eases design.

## Simple to install

- > A Limited Torque Screw (LTS) system ensures proper installation of the tripping device, for added flexibility.
- > A transparent sealed flap protects access to tripping device switches and prevents settings from being changed.
- > New electrical control adjustment also has a transparent sealable cover to prevent it from being operated accidentally.
- > Pre-wired connectivity and plug-and-play interface modules allow for easy integration with communication networking.

## Simple to use

- > Users customise alarms for all parameters, assign them to indicator lights, choose display priorities, and configure time delay thresholds and modes.
- > Continuously-activated event logs and tables, a wealth of information, enable users to ensure that the installed equipment base operates correctly, and to optimize settings.



## 65%

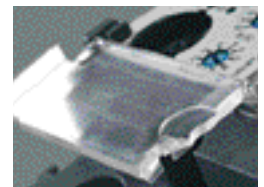
time savings in installation compared with a classic monitoring solution.



The green "Ready" LED flashes to show that all is well.



LTS installation system



Transparent protective cover





# Choose Schneider Electric expertise

Whether in buildings, factories or mission-critical infrastructures, Schneider Electric commits to reducing energy costs and CO<sub>2</sub> emissions for its customers. It offers products, solutions and services that integrate with all levels of the energy value chain.

## Solutions adapted to all needs

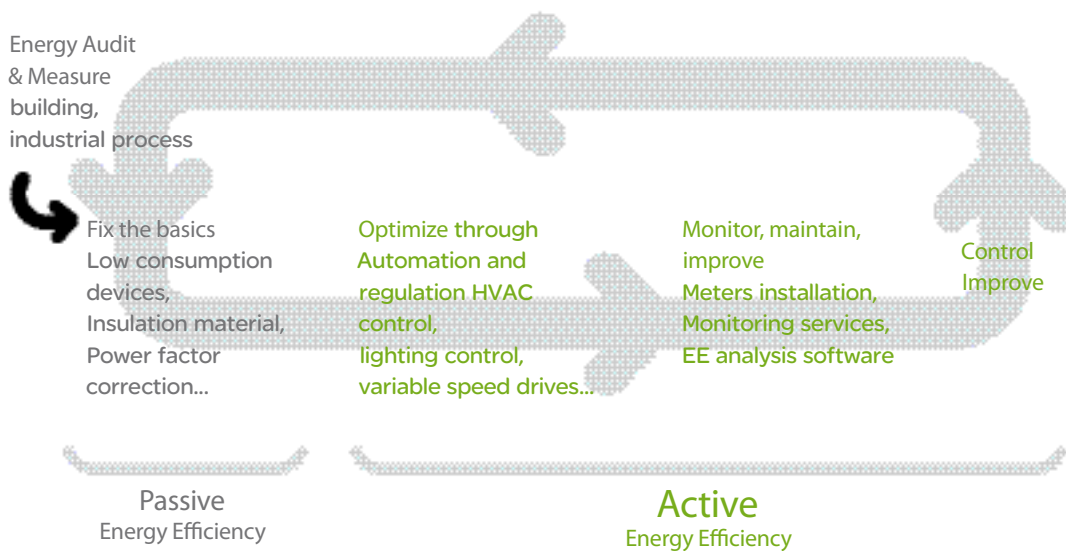
Through flexible solutions for commercial and industrial buildings, Schneider Electric commits to help customers gradually move towards an active approach to their energy efficiency. It helps get more return from investments and future design solutions.

Up to **30%**  
savings in energy costs

## Energy performance contracts

Schneider Electric offers innovative service to modernise technical installations. Our objective is: to dramatically reduce energy costs, whilst improving comfort and safety, all in an environmentally friendly way.

**4 steps**  
> Diagnosis  
> Proposals  
> Implementation  
> Follow-up



## Environmentally responsible

Compact NSX is part and parcel of the Schneider Electric energy efficiency approach. Designed for easy disassembly and recycling at end of life, Compact NSX complies with environmental directives RoHS\* and WEEE\*\*, and with ISO 14001 standards, thanks to non-polluting factories.

\* RoHS = Restriction of Hazardous Substances  
\*\* WEEE = Waste Electrical and Electronic Equipment

# Characteristics

## Common characteristics

### Rated voltages

Insulation voltage (V)	Ui	800
Impulse withstand voltage (kV)	Uimp	8
Operational voltage (V)	Ue	CA 50/60 Hz 690

**Suitability for isolation** IEC/EN 60947-3 yes

Utilisation category A

**Pollution degree** IEC 60664-1 3

### Control

Manual	With toggle	■
	With direct or extended rotary handle	■
Electrical	With remote control	■

### Versions

Fixed		■
Withdrawable	Plug-in base	■
	Chassis	■

## Circuit breakers

### Breaking-capacity levels

#### Electrical characteristics as per CEI/IEC 60947-2

Rated current (A)  $I_n$  40 °C

Number of poles

#### Breaking capacity (kA rms)

$I_{cu}$	AC 50/60 Hz	220/240 V
		380/415 V
		440 V
		500 V
		525 V
		660/690 V

#### Service breaking capacity (kA rms)

$I_{cs}$	AC 50/60 Hz	220/240 V
		380/415 V
		440 V
		500 V
		525 V
		660/690 V

Durability (C-O cycles)

Mechanical

Electrical	440 V	$I_n/2$
		$I_n$
	690 V	$I_n/2$
		$I_n$

#### Characteristics as per Nema AB1

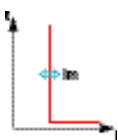
Breaking capacity (kA rms)	AC 50/60 Hz	240 V
		480 V
		600 V

#### Characteristics as per UL 508

Breaking capacity (kA rms)	AC 50/60 Hz	240 V
		480 V
		600 V

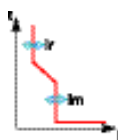
## Type of protection and applications

### MA magnetic



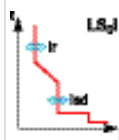
- Distribution and motors

### TM-D thermal-magnetic



- Distribution
- Generators

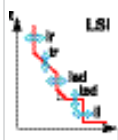
### Micrologic 2 electronic



- Distribution
- Service connection (public distribution)
- Generators
- Motors (I only)
- Motors

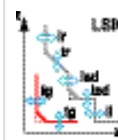
### Micrologic 5 / 6 A or E

#### 5 A or E



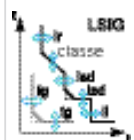
- Distribution and generators

#### 6 A or E



- Distribution and generators

#### 6 E-M



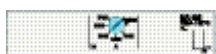
- Motors



NSX100						NSX160						NSX250						NSX400						NSX630					
B	F	N	H	S	L	B	F	N	H	S	L	B	F	N	H	S	L	F	N	H	S	L	F	N	H	S	L		
<b>100</b>						<b>160</b>						<b>250</b>						<b>400</b>						<b>630</b>					
2, 3, 4						2, 3, 4						2, 3, 4						3, 4						3, 4					
40	85	90	100	120	150	40	85	90	100	120	150	40	85	90	100	120	150	40	85	100	120	150	40	85	100	120	150		
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-	10	10	10	-	-	-	10	10	10	-	-	-	15	15	15	-	-	20	20	20	-	-	20	20	20	-	-		

### Circuit breakers and trip units

#### COMPACT NSX 100/160/250



MA Distribution and motors



TM-D Distribution  
TM-G Generators



2.2 Distribution  
2.2-AB Service connection (public distribution)  
2.2-G Generators  
2.2-M Motors



5.2 A Distribution and generators  
5.2 E Distribution and generators



6.2 A Distribution and generators  
6.2 E Distribution and generators

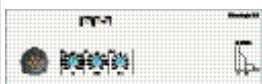


6.2 E-M Motors

#### COMPACT NSX 400/600



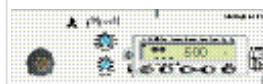
1.3-M Distribution and motors



2.3 Distribution  
2.3-AB Service connection (public distribution)  
1.3-M Motors (I only)  
2.3-M Motors



5.3 A Distribution and generators  
5.3 E Distribution and generators



6.3 E-M Motors