

Low Voltage

Compact NSX

Circuit breakers and switch disconnectors
Measurement and communication
From 100 to 630A

Catalogue
2008





Contents

Introduction 3

Functions
and characteristics A-1

Installation
recommendations B-1

Dimensions
and connection C-1

Wiring diagrams D-1

Additional
characteristics E-1

Catalogue numbers F-1

Glossary G-1





Compact NSX ●●●

Next-generation circuit breakers

Today, next-generation Compact NSX circuit breakers provide an intelligent outlook and set 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.

Compactness, discrimination and modularity – all of the features which defined the success of the Compact NS generation of circuit breakers combined with new functions for safe, easy monitoring and management of installations.

The new range of Compact NSX circuit breakers stands out from the crowd, thanks to its electronic intelligence. Through direct access to in-depth information, and networking via open protocols, Compact NSX lets operators optimise the management of their electrical installations.

Far more than a circuit breaker, Compact NSX is a measurement and communication tool ready to meet energy-efficiency needs through optimised energy consumption, increased energy availability, and improved installation management.



Safety and performance

Compactness, discrimination and modularity – new Compact NSX circuit breakers incorporate advanced monitoring and communication functions, from 40 amps up, combined with impeccable protection.



Expert technology

A roto-active contact breaking principle provides each circuit breaker with very high breaking capacity in a very small device, remarkable fault current limitation performance, and endurance.

➤ Compact NSX benefits from a patented double roto-active contact breaking concept, together with a reflex tripping system for ultimate breaking.

➤ Exceptional fault current limitation guarantees robust, reliable protection and, above all, reduces the causes of component aging, thus extending service life for installations.

23

new patents pending confirm the innovative character of Compact NSX



New breaking capacities

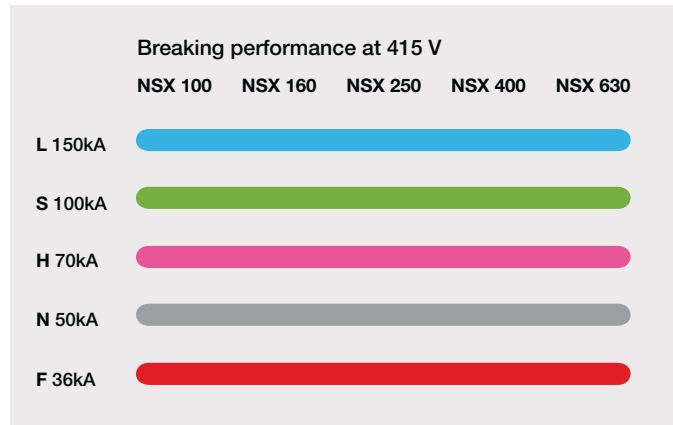
New performance levels for Compact NSX improve application targeting:

- > 36-50 kA – standard applications (industrial plants, buildings and hospitals),
- > 70-100 kA – high performance at controlled cost,
- > 150 kA – demanding applications (maritime).

Enhanced protection for motors

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

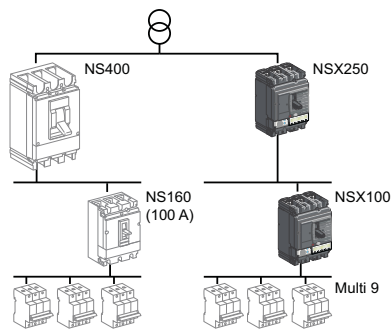
- > well adapted to motor-starting solutions up to 315 kW at 400 V, providing protection against short circuits, overloads, phase unbalance and loss,
- > also enables set-up of additional protection systems for starting and braking with the motor running, reverse braking, jogging or reversing in complete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



Reduced installation costs

Optimising installations allows for achieving up to 30% savings:

- > considerable savings at the time of installation, thanks to total discrimination with miniature circuit breakers,
- > smaller devices, more economic switchboards mean best overall installation cost, without overcalibration.



The trip units are now true circuit breaker control systems.



With the integration of electronics, trip units have gained in speed and accuracy.



Greater reliability and better discrimination allows more refined settings, especially for time delays.

Monitoring and management

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



Integrated monitoring

> The new Compact NSX range incorporates Micrologic electronic trip units in the circuit breaker, offering both:

- an accurate power monitoring unit,
- a highly reliable protective device.

> A Micrologic electronic tripping device combines next-generation sensors:

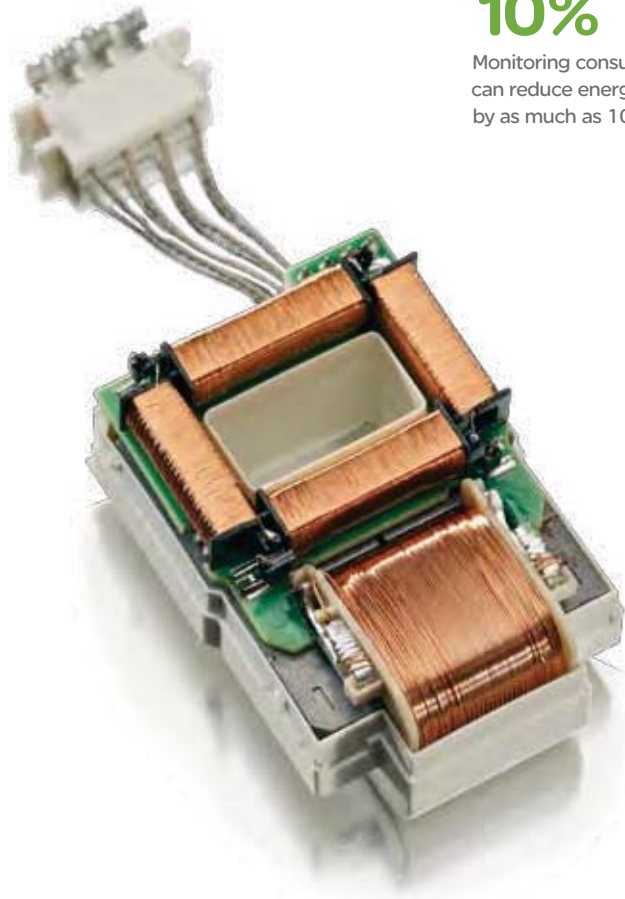
- an "iron" sensor for the power supply to the electronics,
- an "air" sensor (Rogowski coils) for measurement, guaranteeing high accuracy.

> These electronic systems are designed to withstand high temperatures (105°C), ensuring reliability under severe operating conditions.

> 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.

10%

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



Accessibility of information... ..for power monitoring

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.

> Together with power monitoring software (e.g., PowerLogic), the Compact NSX Modbus communication interface provides operators with a parameter set and tools that make system monitoring very easy.

> Operators have real-time data to control energy availability, to monitor power supply quality, to optimise consumption of different applications or zones, reducing load peaks and continuously supplying priority loads, and to draw up maintenance schedules.

> A software utility (RSU) allows protection and alarm configuration, in addition to testing communications with all installed devices.



Monitoring software
PowerLogic ION-E



Measurement functions are controlled by an additional microprocessor.

Protection functions are electronically managed independently of measurement functions.

An ASIC (Application-Specific Integrated Circuit) is common to all trip units, which boosts immunity to conducted or radiated interference and increases reliability.

Simplicity

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



Simple in design

Compact NSX is mounted and wired reusing the same measurements as Compact NS.

Cut-outs are the same whatever the type of handle. Engineering drawings are the same, so installation and connection layouts can be used on new projects, simplifying extensions or retrofits, and reducing maintenance costs.

Integration in help software, for parameter settings and switchboard installation, further eases design.



Simple to install

- > A transparent lead-sealable cover protects access to tripping device switches and prevents settings from being changed.
- > The new electrical control adjustment also has a transparent lead-sealable cover to prevent it from being operated accidentally.
- > Compact NSX has an optional functional terminal shield that offers excellent protection against direct contact (IP40 on all sides, IP20 at cable entry points) and easy installation.
- > All Compact NSX devices can be equipped with a communication function via a pre-wired connection with a Modbus interface module. When the Modbus address is declared, the Compact NSX device is integrated into the network.