

PE105129.eps



External neutral current transformers.

External neutral current transformer (ENCT)

The external transformer is a sensor required for a three-pole circuit breaker in a system with a distributed neutral to measure the neutral current in order to:

- protect the neutral conductor
- protect against insulation faults.

This current transformer can be connected to Micrologic 5 / 6 trip units. The transformer rating must be compatible with that of the circuit breaker.

Required current transformers for different circuit breaker models

Type of circuit breaker	Rating	Catalogue number
NSX100/160/250	25 – 100 A	LV429521
	150 – 250 A	LV430563
NSX400/630	400 – 630 A	LV432575

External neutral voltage tap (ENVT)

The neutral voltage transformer is required for Micrologic E power metering with a three-pole circuit breaker in a system with a distributed neutral. It is used to connect the neutral to the Micrologic trip unit to measure phase-to-neutral (Ph-N) voltages.

External 24 V DC power-supply module

Use: an external 24 V DC power supply is required for installations with communication, whatever the type of trip unit.

On installations without communication, it is available as an option for Micrologic 5/6 in order to make it possible to:

- modify settings when the circuit breaker is open
- display measurements when the current flowing through the circuit breaker is low (15 to 50 A depending on the rating)
- maintain the display of the cause of tripping and interrupted current.

Characteristics: a single external 24 V DC supply may be used for the entire switchboard.

The required characteristics are:

- output voltage: 24 V DC $\pm 5\%$
- ripple: $\pm 1\%$.
- overvoltage category: OVC IV - as per IEC 60947-1.

External 24 V DC power-supply modules with an output current of 1 A are available:

Available external power-supply modules			Cat. no.
Power supply	V DC ($\pm 5\%$)	24/30	54440
		48/60	54441
	V AC (+10 %, -15 %)	100/125	54442
		110/130	54443
		200/240	54444
		380/415	54445
		Output voltage	24 V DC ($\pm 5\%$)
Ripple	$\pm 1\%$		
Overvoltage category (OVC)	OVC IV - as per IEC 60947-1		

An external 24 V DC power-supply module with an output current of 3 A is also available:

Available external power-supply modules			Cat. no.
Power supply	V DC	110/230	ABL8RPS24030
	V AC	110/240	
Output voltage	24 V DC ($\pm 5\%$)		
Ripple	$\pm 1\%$		
Overvoltage category (OVC)	OVC II		

Total consumption: To determine the required output current of the 24 V DC power supply, it is necessary to sum up the currents consumed by the different loads supplied:

Module	Typical Consumption (24 V DC at 20 °C / 68 °F)	Maximum Consumption (19.2 V DC at 60 °C / 140 °F)
BCM ULP for Masterpact and Compact NS	40 mA	65 mA
Micrologic 5 or 6 trip unit for Compact NSX circuit breakers	30 mA	55 mA
BSCM for Compact NSX circuit breakers	9 mA	15 mA
2-wire RS 485 isolated repeater	15 mA	19 mA
FDM121 display for LV circuit breaker	21 mA	30 mA
IFM Modbus-SL interface for LV circuit breaker	21 mA	30 mA
IFE Ethernet interface for LV circuit breaker	120 mA	3 A (with gateway)
I/O input/output interface module for LV circuit breaker	165 mA	420 mA
Maintenance module	0 mA (the maintenance module has its own power supply)	0 mA (the maintenance module has its own power supply)

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External 24 V DC power-supply module.