ONLITE central eBox BPD

bus phase monitor

Art. no. 22185299

Application

Bus-phase monitor with 2 additional alarm inputs. Monitors 3-phase supplies for low voltage and phase failure, and also detects if the neutral line goes open-circuit.
Additional standard phase-monitors, auxiliary contacts in general-lighting circuit breakers or even e.g. contacts in a fire alarm system can be integrated via two separate alarm loops.

Design notes

If the general lighting fails, battery-backed central power supplies, as long as they are receiving power from the general mains, must switch on all the emergency and escape sign luminaires which are in non-maintained mode or which are "off" in continuous lighting mode, and power these luminaires also from the mains. The power supply is only switched to DC operation (battery operation) if there is a total black-out of the mains supply or if the mains voltage is too low, and when in test mode.
To ensure this happens, phase monitoring is used in the sub-distribution circuits of the general power supply; the general lighting circuits must likewise be monitored by providing the miniature circuit breakers with auxiliary contacts. The auxiliary contact loop can be taken e.g. to the Alarm input on an ONLITE central eBox BPD (Bus Phase Detector).

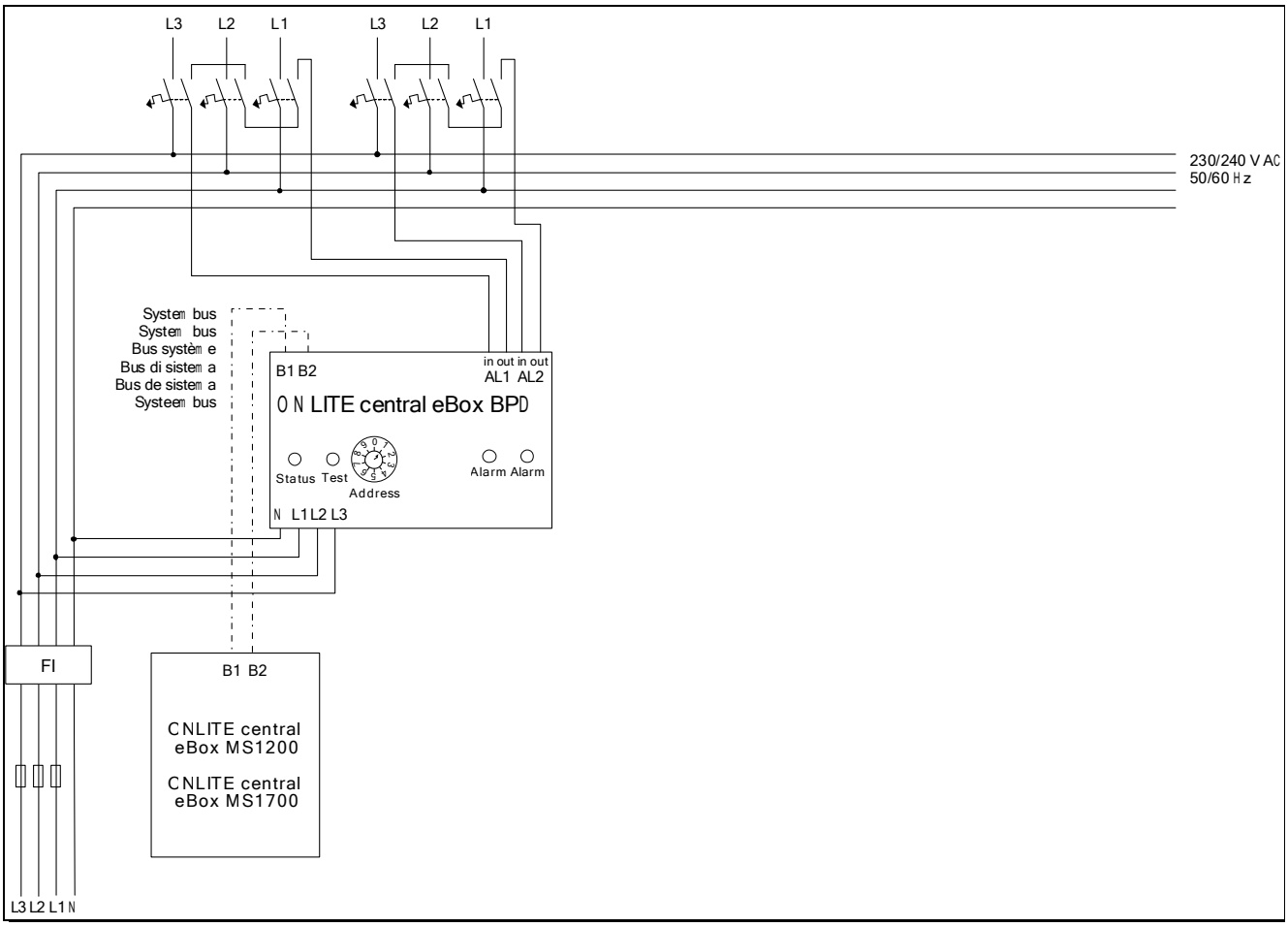
Functional description

The bus-phase monitor is powered from two different sources: from the mains supply that requires general monitoring and from the system bus of the ONLITE central eBox MS 1200/1700. In addition, it is reliably integrated in the system by "heart beat" communication which ensures any line break or device failure is detected and the emergency lighting is activated. This dispenses with the need to lay the system bus lines in accordance with functional safety requirements. Additional monitoring loops can be included by removing the respective wire link across the two additional alarm inputs. If a monitoring loop connected to the alarm input goes open-circuit, then the preselected interaction is triggered via the system bus.
There can be up to 9 bus-phase monitors in one eBox system, which can be assigned individually or in groups to the entire system or to a sub-distribution unit.

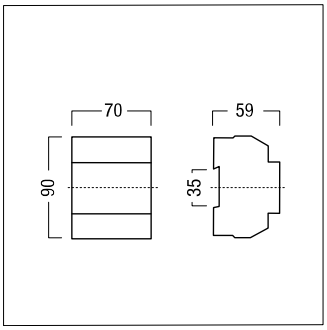
If the test button is pressed for 1 second, the unit simulates a phase failure and sends an error message to the assigned sub-distribution units.

Status LED
green, flickering occasionally . . operating correctly
off . . . . . no voltage on system bus
red . . . . . failure of CPU or EEPROM
red, flickering . . . . . phase failure
Alarm LED
green . . . . . alarm contact closed, operating correctly
red . . . . . alarm contact open, fault

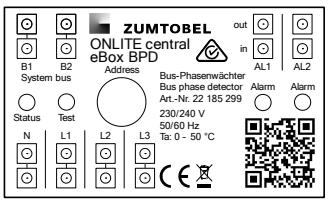
Wiring scheme



Dimension



Label/connections



Technical data

Nominal voltage	230/240 V AC, 50 Hz
Current consumption	max. 25 mA
Bus loads	max. 6
Addressing	1 address per device
Miscellaneous	Testing: TÜV Rheinland / CE / EN 50171 for EN 50172 compliant installations
Dimensions	4 units at 17,5 mm 58 x 70 x 90 mm
Installation	For installing in control cabinet On 35 mm top-hat rail according to EN 50022
Housing material	polycarbonate
Case colour	grey (RAL 7012)
Protection type	IP20
Protection class	Class II (double-insulated)
Terminals	0,75 ... 2,5 mm²
Interface	Systembus (B1, B2)
Outputs	2 alarm contacts (AL1/AL2) 15 V loop resistance 100 Ohm max.
Permitted ambient temperature	Ta 0–50 °C
Weight	Approx. 0.2 kg