Neol
IT-Solutions

Datasheet

EnvironmentalMonitoring

Numerous sensors, detectors and expansion modules are available for the requirements in ambient and device monitoring. All units are self-developed by Neol so the highest technical requirements and standards are met. With the xBus standard on all products the combination and expansion of sensors or detectors is guaranteed at all times.

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Sensors

All sensors have general properties. The temperature sensors allow to trigger combined actions or to send alarm messages. State values (Syslog, SNMP traps, emails) can be transmitted by messages. A control of environmental conditions is possible at any time this way.

Cascadable
The xBus interface can be cascaded to any point on the network using a standard network cable. Connecting other xBus peripheries is possible over the two RJ45 ports on the front.

Measuring range
Temperature: -25°C to +60°C
Accuracy: +/- 0,5°C (typ) to +25°C | +/- 1°C (max) from -10°C to +60°C.

No external power supply
Up to 4 sensors can be connected directly in series with a ePowerSwitch Master or a VidioGuard . More sensors can be attached through the xBus Extender.

Easy Installation
The installation and setup of the xBus module is very simple and requires no additional calibration. Using a mounting bracket the installation at almost any location is possible.

Assigning names
A user-defined name (up to 32 characters) can be assigned to each xBus module using a ePowerSwitch or the VizioGuard. Each sensor is uniquely identifiable this way.

Graph
The analog measured values can be displayed in a diagram and the time interval between two measurements is set flexible.

Montage
The sensors with their digital xBus interface are designed for easy and fast installation in a 19“ rack. The mounting angle is rotatable by 90 degrees to ensure flexibility in mounting the device.

Temperature sensor

Art.-No. T.SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.

The temperature sensor is available for all ePowerSwitch Master and VizioGuard systems. It monitors the ambient temperature.

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Temperature sensor tiny

Art.-No. T.TINY SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.

The temperature sensor tiny uses a L-xBus and can only be used with a ePowerSwitch 4M+, ePowerSwitch 8M+ and VizioGuard Tiny. Up to four temperature sensors may be connected and the entire cable length is limited to a maximum of 20 meters.

Temperature and brightness sensor

Art.-No. T.P SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.

The temperature and brightness sensor may be connected to any ePowerSwitch Master or VizioGuard. It monitors the temperature and in addition the ambient light/brightness.

Temperature and proximity sensor

Art.-No. T.P SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
IR Proximity sensor Active infrared, range 0-50 cm

The smart temperature and infrared proximity sensor can be connected to any ePowerSwitch Master or VizioGuard. It automatically detects even the slightest movements via the built-in infrared sensor.

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Temperature and humidity sensor

Art.-No. T.RH SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
Humidity 0% to 100%, +/-3% tolerance

The temperature sensor offers the additional possibility to monitor humidity. In this combination it is a simple environmental control system which can be combined with any ePowerSwitch Master or a VizioGuard.

Temperature sensor with Signal Conditioner

Art.-No. WD T.SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
Digital inputs 1 input for water leakage cable 1 input for end-of-line temrination

This xBus interface is used to connect our sensor cable for water leaks. It can be connected to any ePowerSwitch Master or VizioGuard.

Temperature sensor with 1 digital input

Art.-No. DE T.SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
Digital inputs 1 digital dry contact 1 input with end-of-line termination

This xBus interface has a digital input (incl. end-of-line termination), a 11VDC output and a built-in temperature sensor. The device offers the connectionto any ePowerSwitch Master or VizioGuard by a dry contact (magnetic contact, smoke, water, motion detector and much more).

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Temperature sensor with 2 digital inputs

Art.-No. DT T.SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
Digital inputs 1 digital dry contact Detachable screw-clamp terminal

This xBus interface has 2 seperate digital dry inputs and a built-in temperature sensor. To one of the two inputs a glass breakage sensor (or vibration sensor) may be attached. The device offers the connection to any ePowerSwitch Master or VizioGuard.

Temperature sensor with 1 digital output

Art.-No. DO T.SENSOR

Measuring range

Temperature -25°C to +60°C
Accuracy +/- 0,5°C (typ) to +25°C +/- 1°C (max) from -10°C to +60°C.
Digital output: 1 Relay: 200m@24VDC
Output: Type: 8/12VDC 50mA

This xBus interface has a digital output, a 11VDC output and a built-in temperature sensor. The device offers the connection to any ePowerSwitch Master or VizioGuard.

Input for PT100 temperature sensors

Art.-No. PT100 T.SENSOR

Application area

The xBus interface offers an analog input for PT100 temperature sensors and can be connected to any ePowerSwitch Master or VizioGuard.

With this module PT100 temperature sensors can be easily integrated. The temperature range is determined on the PT100, in which the standardized nominal values and tolerances are fixed.

Using the xBus port (RJ45) additional sensors and/or equipment may be cascaded. The ePowerSwitch 4M+, the ePowerSwitch 8M+ and VizioGuard Tiny support up to 4 xBus peripherals. With a ePowerSwitch 8XM and a VizioGuard system up to 32 analog interfaces can be realized.

The administrator is able to create rules for automated trigger actions and sending alerts if predefined tresholds are exceeded (based on the values of the analog input). These messages (syslog, SNMP traps, emails) can also be supplemented by the measured value of the probe.

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Dual 0-10V analog input

Art.-No. 0-10 T.SENSOR

Application area

The xBus interface offers two inputs with 0-10V and allows the connection of two devices with 0-10V outputs using a ePowerSwitch Master or VizioGuard.

Dual 4-20mA analog input

Art.-No. 4-20 T.SENSOR

Application area

The xBus interface offers two inputs with 4-20mA and allows connecting any device with 4-20mA to an ePowerSwitch Master or VizioGuard.

Push button

Art.-No. PUSH BUTTON

Application area

The xBus interface push button can be connected to any ePowerSwitch Master or VizioGuard. The operation is done manually by short or long pressing the button to trigger a pre-programmed action.

The push button with microprocessor and xBus interface allows triggering of pre-programmed actions by a short or long press of the button. It can be connected at any position within the xBus row to trigger actions (such as the control of electrical outlets or sending alarms via SNMP traps, syslog or emails).

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Detectors

The detectors provide monitoring for further ambient conditions and enable to trigger combined actions or to send alarm messages. State values (Syslog, SNMP traps, emails) can be transmitted by messages. A control of the environmental conditions is possible this way at any time.

Assigning names
A user-defined name (up to 32 characters) can be assigned to each xBus module using a ePowerSwitch or the VizioGuard. Each sensor is uniquely identifiable this way.

Graph
The analog measured values can be displayed in a diagram and the time interval between two measurements is set flexible.

Optical smoke detector

Art.-No. SMOKE DET

Application area
An optical smoke detector with built-in temperature sensor. This EN14604 certified sensor can be connected directly to a VizioGuard system (optionally via the digital input module to a ePowerSwitch Master) .

Instant connection
The optical smoke detector with integrated alarm signal is optionally supplied with an digital input module. A faster and easier connection to a ePowerSwitch Master is possible this way. The smoke detector can be connected directly to a VizioGuard. For optimum protection of the rooms a placement at sensitive locations is sufficient. The smoke detector can be placed several times in a row.

Optical smoke detection
The optical smoke sensor detects smoke within a radius of about 7 meters below the detector . The integrated temperature sensor has a radius of 5 meters.

Benefits
- Requires no separate power supply.
- 2.9 m connection cable included.
- Quick and easy installation.
- Optical detection, light scattering.
- Sensor sensitivity : m = 0.11 0 0 13 dB / m conforming to EN 14 604
- Heat detection: Class A2 recognition compliant according to EN 54-5
- Temperature fire alarm : +60°C to +70°C
- Siren volume : 85dB / m3

Conformity
- EN 14 604
- A2 EN 54-5
- EN 50130-4
- EN 55022

Also available as Kit variant with temperature sensor (Art.-No. SMOKE DET KIT).

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Optical liquid detector

Art.-No. LIQ DET

Application area

The optical liquid detector can be used to check for any liquid. Unlike conventional cable testers no conductivity of the liquid must be provided. He has a digital output with end-of-line termination option in order to constantly monitor the wiring between the sensor and the monitoring system. The sensor can be directly connected to a VizioGuard (optionally via the digital input module to a ePowerSwitch Master). The power is supplied via the dry contact terminal.

Instant connection

The optical liquid sensor is supplied with an optional digital input module. A faster and easier connection to a ePowerSwitch Master is possible this way. The device can be connected directly to a VizioGuard. For optimum protection of the rooms a placement at sensitive locations is sufficient.

Rapid detection of liquids

This detector uses an integrated phototransistor and a digital output, on which entering liquid is detected. The recognition is significantly faster through this method of detection and a near instant alarm condition is possible.

Advantages compared with cable sensors

The operation is derived from the principle of Total Internal Reflection (TIR) . An LED and a phototransistor are mounted in a plastic dome at the sensor head. Upon the occurrence of a liquid, the light from the LED is reflected back to the phototransistor. When the liquid enters at the dome, the refraction changes. A portion of the emitted light is refracted by the liquid and no longer reflected. The amount of light received by the photo transistor is reduced, and the alarm condition is triggered.

Protection against cable breakage

For this case a pull-up resistor is integrated, which is responsible for monitoring the sensor cable. This additional feature can be enabled or disabled via an internal jumper.

Advantages

- Digital liquid detector with optical sensor.
- Requires no calibration.
- Separate power supply not required.
- Electronic circuits encapsulated in a waterproof case.
- Mounting plate stainless steel.
- 2.9m connection cable.
- Can be installed for space-constrained applications.
- Quick and easy installation.

Also available as Kit variant with temperature sensor (Art.-No. LIQ DET KIT).

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Infrared motion detector

Art.-No. MOV DET

Application area

The motion detector has 2 digital outputs (alarm and tamper) and can be directly connected to a VizioGuard (optionally via the digital input module to a ePowerSwitch Master). The power is supplied via the dry contact terminal.

Instant connection

The motion detector is optionally supplied with a digital input module. A faster and easier connection to a ePowerSwitch master is possible this way. The motion detector can be connected directly to a VizioGuard. For optimum protection of the rooms a placement at sensitive locations is sufficient.

Reliable detection

Due to its microprocessor and dual sensor this motion detector is amazing reliable and safe to operate with a detection angle of 85° and a range of up to 12 meters.

Advantages

- Motion detector with dual sensors for maximum security
- Requires no separate power supply
- 3m four-wire cable included
- Tamper switch
- Relay output
- Message display (LED) can be deactivated
- Adjustable sensitivity
- Test function
- Power consumption (sleep / alarm): 15 mA.
- Switching current: 100mA
- Power supply voltage: 12VDC.
- Contact: Alarm contact NC/NO, 24VDC, 100mA
- Coverage angle: 85°
- Width: 60mm

Also available as Kit variant with temperature sensor (Art.-No. MOV DET KIT).

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Magnetic reed contact

Art.-No. MAGNETIC CON

Application area

The magnetic reed contact can be directly connected to a VizioGuard (optionally via the digital input module to a ePowerSwitch Master). Its field of application is doors, windows and all structural elements, where opening conditions need to be monitored.

Effective protection for windows and doors

The magnetic reed contact secures doors and windows against burglary. Unauthorized opening is immediately recognized and an alarm condition triggered. The sensor consists of a reed switch and a magnet. These are mounted either in parallel or orthogonal to the front side at a distance of max. 13 mm apart. The circuit of the detector is closed at hibernation. If the distance between the reed and magnet contact changes, the circuit is interrupted and an alarm is triggered.

Mounting as required

The optimum installation point is the middle of a door or window frame. Also a fitting at the bottom of the window frame is possible when a particular window needs to be tilted in magnetic contact . The detector is suitable for surface as well as for flush mounting.

- For the reliable backup of windows and doors (perimeter protection)
- Magnetic contact suitable for surface and flush mounting
- Opening detector consisting of magnetic contact and magnet
- Incl. 2m cable (4-wire), surface housing, shims and screws
- NC switch contact

Connection

- Direct to the connection terminal of the expansion module 8XM or
- in any place of the xBus interface when using a ePowerSwitch 4M+, 8M+, 8M+ /32, 8XM , or
- a VizioGuard system or using the digital input module.

Properties

- Contact 1 N/O
- Power max.: 0.5 A
- Voltage max.: 200V
- Withstands high temperatures (up to 150°C)
- For difficult conditions of use

Technical specification

Connections	NC, max. contact capacity 100 V/5 W/0.05 A
Dimensions (W x H x D)	11 x 12 x 48 mm
Type of detection	Magnetic field measurement
Stray-field protection	No
Housing material	ABS
Cable type	2-core
Cable length	2 m
Installation location	Integration / surface mounting
Sensor type	Reed contact

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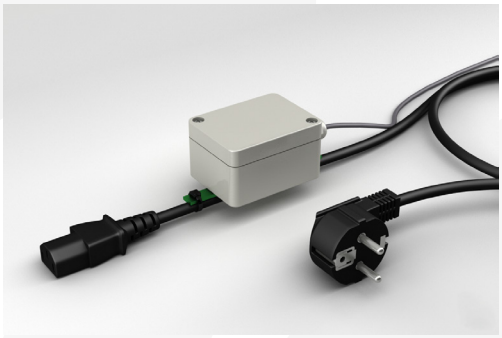
Current examiner

Art.-No. VOLT DET



Application area

This compact sensor acts as a current examiner and enables a quick and simple check on current cables without damaging the cable itself. The sensor can be connected directly to any ePowerSwitch Master or the VizioGuard via a digital input.

Measuring range

230-400VAC

Water leakage sensor cable

Art.-No. WATER DET 3/5/10

Application area

The water leakage sensor cable made of stainless steel is used to test for conductive liquids. The cable is connected to the temperature sensor with signal conditioner and thus can be connected to all ePowerSwitch Master and the VizioGuard.

Advantages

- Active component with flexible application range
- High manufacturing quality by stainless steel wire
- Fiberglass shell guarantees immediate alarm condition due to the capillary effect
- Monitoring of a possible cable break

Cable lengths

- 3 meters / 5 meters / 10 meters

Current probe

Art.-No. CP IEC

Application area

The xBus current probe is placed between a power source and an electrical device. It examines the effective voltage (RMS) to the power outlet and is integrated by a ePowerSwitch Master or a VizioGuard. The data can be monitored and recorded. Triggering of an alarm condition occurs upon reaching a critical value. By cascading the current probes, the number of monitored power outlets can be increased.

The xBus current probe checks the current flow of power (A) from the connected IEC320 current output. The accumulated values can be used for the monitoring, recording and planning of emergency actions.

Programmable measuring periods

The administrator can define any measurement periods for the connected power outlet.

Graph

The analog measured values can be displayed in a diagram and the time interval between two measurements is set flexible.

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Extensions

The extensions provide additional connection options to meet individual monitoring scenarios. They enable to trigger combined actions or to send alarm messages. State values (Syslog, SNMP traps, emails) can be transmitted by messages. A control of the environmental conditions is possible this way at any time.

Digital input module

Art.-No. DIM

Application area

The digital input module has 8 digital dry contact inputs. It can be connected to any ePowerSwitch Master or VizioGuard.

8 dry contact inputs
Two removable clamp terminals allow quick and easy access to 8 dry contacts such as door contacts, smoke or liquid detectors. With the clamping terminal a wiring of the connections is possible.

2 xBus connections
Using the two xBus ports a cascading of devices over a distance of 200 meters is guaranteed.

Redundant power supply
Connected peripherals are supplied with power directly via the xBus. A second, optional power adapter can be used as a redundant power supply to increase the safety and reliability.

Status LED
The status LEDs represents all states directly.

Rack mountable
The device is optionally integrable in a rack with an optional rack mount (1U) .

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Digital output module

Art.-No. DOM

Application area

The digital output module has 8 digital outputs (relays) and can be connected to any ePowerSwitch Master or VizioGuard.

8 dry contact outputs
Two removable clamp terminals allow quick and easy access to 8 dry contacts such as door contacts, smoke or liquid detectors. With the clamping terminal a wiring of the connections is possible.

2 xBus connections
Using the two xBus ports a cascading of devices over a distance of 200 meters is guaranteed.

Redundant power supply
Connected peripherals are supplied with power directly via the xBus. A second, optional power adapter can be used as a redundant power supply to increase the safety and reliability.

Status LED
The status LEDs represents all states directly.

Rack mountable
The device is optionally integrable in a rack with an optional rack mount (1U) .

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xBus Extender

Art.-No. XBUS EXTENDER

Application area

The xBus Extender is used as an optional hub in larger installations, in order to realize greater distances or to make an adjustment to the given building structures. He also has a serial interface, which allows the control by a terminal software.

Features

- 4 RJ45 ports for easy installation of xBus devices.
- 1 xBus RJ45 input for cascading up to 4 xBus extenders.
- 1 RS232 serial port (SUB-D9) for the management of peripheral devices via a proprietary program.
- Power supply via the xBus port (for smaller networks) or with the included power adapter.
- Optional redundant power supply.
- No configuration required – connected devices are detected automatically.
- Scope of delivery: 1 xBus RJ45 cable, 1 metal bracket for mounting, 1 power adapter.
- Optional rack-mountable 1U housing.

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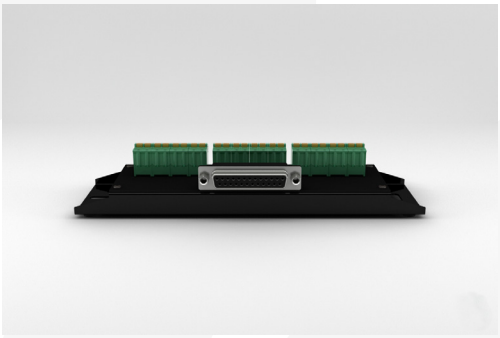
Extension module 8XM

Art.-No. IO EXT MOD



Application area

Designed specifically for the ePowerSwitch 8XM the expansion module enables easy and fast connection of 8 digital inputs and 4 digital outputs.

The expansion module is connected via the supplied SUBD25 cable on the front of ePowerSwitch 8XM. The spring-loaded terminals allow tool-free wiring of the 4 connection terminals (eg. magnetic contact, smoke detectors, water detectors, motion detectors and others).

Connections

- 4 digital outputs
- 8 digital inputs

Cables included: SUB-D 25-pin male/male – 1.80 meters

xBus power supply

Art.-No. POWER BOX

Application area

Additional power supply for other peripherals on the xBus.

The xBus power supply provides 4 dry contacts for various sensors and modules (liquid, smoke detectors, motion sensors, etc.). This particular module is required, if a larger distance or a greater number of sensors is used.

Connected devices can be supplied within the xBus network with additional power over the two monitored current inputs. Both ports are located in the active surveillance.

A matching 12VDC power supply is included.

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