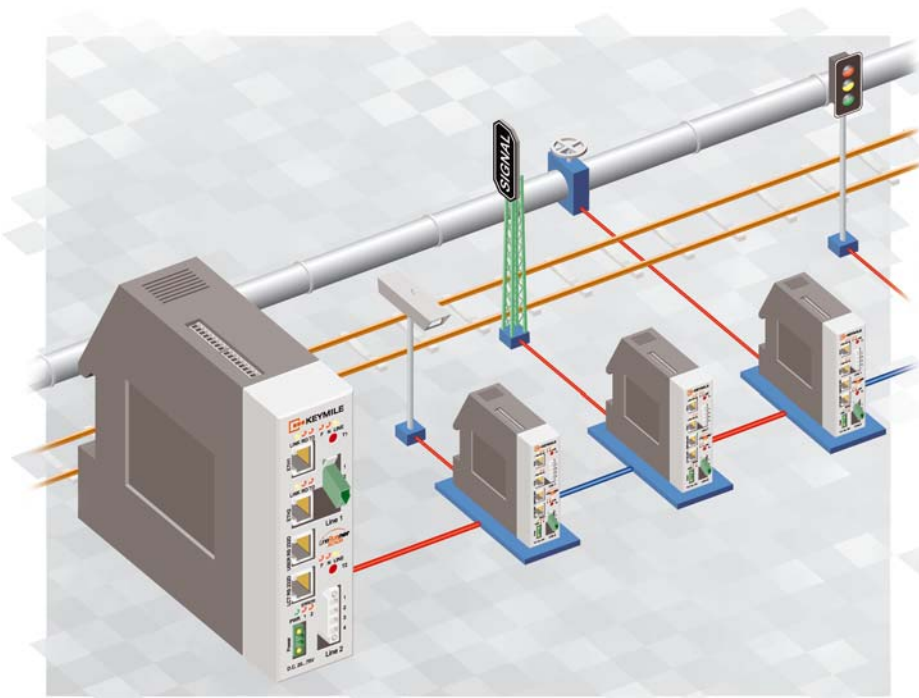


# LineRunner SCADA NG

Transmission technology for telecontrol systems



- Long range for large area connections
- Transmission on
  - optical fibres
  - copper pairs
  - PDH and SDH networks
- 2 Mbps over all transmission media
- Highest reliability with ring architecture
- Application interfaces
  - Ethernet 10/100BaseT
  - serial RS-232
- Designed for temperatures between -25 °C and +70 °C
- Management with LineRunner ASMOS or SNMP

LineRunner SCADA NG – for all fields of telecontrol technology

## ■ LineRunner SCADA NG

LineRunner SCADA NG (SCADA = Supervisory Control and Data Acquisition) is the broadband transmission system for reliable and cost-optimised transmission with up to 2.3 Mbps in telecontrol systems of:

- Railroad and transport authorities
- Motorways
- Waterways
- Airports
- Pipelines and industry equipments

LineRunner SCADA NG is a further development of the series LOGEM 1200MD, LOGES MD and LineRunner SCADA currently deployed around the world.

LineRunner SCADA NG is a modular design. It is possible to operate on copper pairs, optical fibres or in SDH/PDH networks in a single system. On optical route sections ranges up to 40 km can be achieved. Radio relay equipment and leased lines can also be integrated into the system.

Interchangeable line interfaces can be used to allow conversion between the different transmission media for any SCADA NG.

## ■ SCADA network

LineRunner SCADA is a multidrop system of the latest generation. Multidrop means that data are exchanged via a network.



LineRunner SCADA NG is a multidrop system with a maximum of 63 LineRunner SCADA systems permitted on a single transmission route.

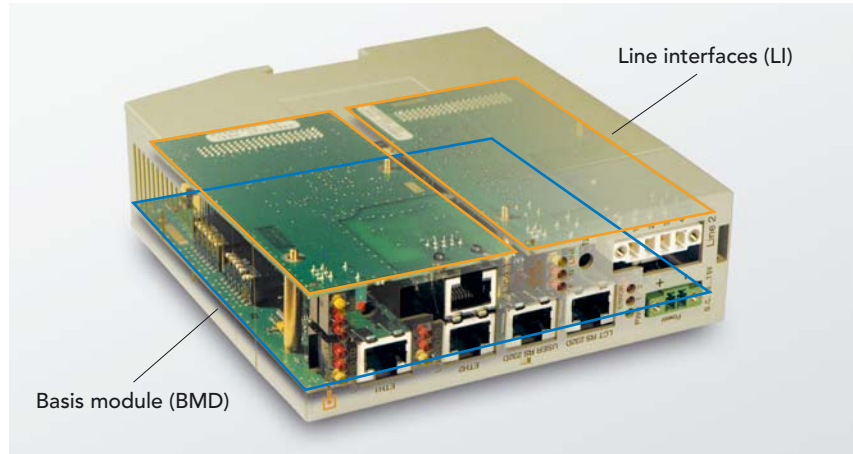
The SCADA network can be arranged in either a linear or ring topology. With it LineRunner SCADA supports variable network topologies using almost any desired infrastructures.

### Future safety

LineRunner SCADA NG can transport Ethernet traffic with a data rate of max. 2.3 Mbps transparently over any established transmission media.

To support already existing applications with serial interfaces, the LineRunner SCADA NG has a serial interface (via the RJ45 jack) in addition to the two Ethernet interfaces, which can be used at the same time.

For serial data, a guaranteed bandwidth of up to 128 kbps is available.



Design of a LineRunner SCADA NG

### Operation

The LineRunner SCADA NG comes in a robust plastic housing. It is designed for DIN rail installation as well as for desktop deployment.

When the LineRunner installation frame SCADA MF3 is used, up to four SCADA NG can be deployed in a subrack (3 HU, 84 SU) in a central office.

All interfaces and indicator lamps on the LineRunner SCADA NG are arranged at the front panel easily accessible by operations personnel.

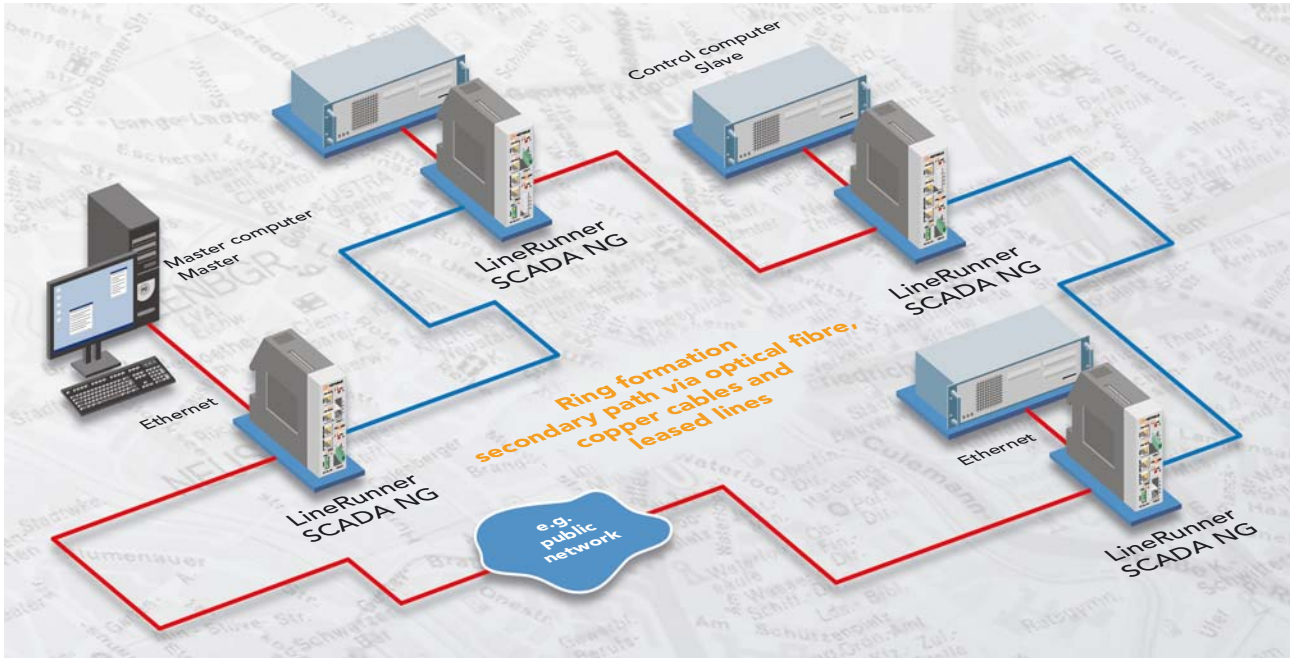
The low supply voltage and power consumption of the SCADA system means it can be operated even with solar power supplies. Apart from the user interface each LineRunner SCADA NG comes with two line interfaces. In addition, it can be operated as repeater or media converter.

### Robustness

LineRunner SCADA NG is designed for operation in extreme climatic conditions. It can be deployed in the temperature range of -25° C to +70° C. It is also shock resistant

#### Technical data of the line interfaces

Designation	Features	Typical range per route	
LI NG OF1S	1 fibre monomode optical fibre with connector F-3000	at 0.625 dB/km:	20.0 km
LI NG OF1L-2 LT, LI NG OF1L-2 NT	1 fibre monomode optical fibre with connector F-3000	at 0.625 dB/km:	40.0 km
LI NG SHDSL	1pair SHDSL transmission with connector Mini Combicon (range with low noise)	2.3 Mbps; ø 0.4 mm:	3.2 km
		2.3 Mbps; ø 0.8 mm:	6.0 km
		512 kbps; ø 0.4 mm:	5.2 km
		512 kbps; ø 0.8 mm:	10.3 km
LI NG 2M	G.703, 2 Mbps with connector RJ45	max. 6 dB attenuation	



Typical construction of a LineRunner SCADA NG installation

and can be operated in environments with high level of electromagnetic interference.

#### ■ Variety of interfaces

The LineRunner SCADA NG can be quickly and easily configured for use in a transmission network. Depending on the transmission medium, it may only be a matter of plugging in the corresponding line interface.

The table on page 2 gives an outline on the interfaces available and the possible transmission ranges between two LineRunner SCADA NG.

#### ■ Protocols

Computers can be connected via Ethernet (TCP/IP) or serially via master/slave (asynchronous to the computer) to the LineRunner SCADA NG.

#### ■ Ring formation

Any SCADA network can be connected to a ring. The ring architecture provides two major advantages.

Firstly, system fail safety is improved. Whenever a transmission route is broken at one place due to external influences (e. g. excavations) data can continue to be exchanged between LineRunner SCADA NGs. There are no downtimes.

The second advantage is the shortening of runtimes between the units. Depending on the topology data can have longer or shorter distances on different route sections.

#### ■ Management

LineRunner ASMOS offers extensive setting configuration and control capabilities. Installed on a PC all LineRunner SCADA NG can be accessed remotely from the central office.

## Technical data

User interfaces	
RS-232D	asynchronous, max. 230.4 kbps
Ethernet	Transmission rate on the line up to 128 kbps 10BaseT, 10/100BaseT (Layer 2 Bridge) Transmission rate on the line up to 2.176 Mbps
Line interfaces	
Laser (2 Mbps, optical)	Safety class 1 Wavelength OF1S: 1,310 nm Wavelength OF1L: 1,310/1,550 nm Data rate 2 Mbps
SHDSL	acc. to ITU-T 991.2 Data rates 512, 1024, 2048, 2304 kbps
2M	G.703/G.704, 120 ohm (symmetrical) Data rate 2 Mbps
Configuration and monitoring	
Management	LineRunner ASMOS (serial or Ethernet) Monitoring and alarming SNMP (Ethernet)
Operation modes	
RS-232D	serial asynchronous to the computer
Ethernet, MAC (Layer 2)	RFC 802.1
Power supply	
Operating voltage	20 V to 75 V
Power consumption	<6 W
Environmental conditions	
ESD	EN 300 386 V1.3.2; ETSI ES 201 468 V1.2.1 (Test Level 2)
Device safety	EN 60950
CE label	yes
GS label	yes
Temperature range operation	-25 ... +70° C (+55° C mounting in installation frame MF3)
Temperature range transport	-25 ... +70° C
Temperature range storage	-40 ... +85° C
Vibration test	EN 300019-2-3
Dimensions (h x w x d), weight	
LineRunner SCADA	135 x 43 x 150 mm, approx. 400 g
Other features	
MTBF	>70 years



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or contact us: [info@keymile.com](mailto:info@keymile.com) ...