



WORLD OF SENSORIC WORLD OF SENSORIC

Loop detectors LD20 and LD40

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Application

Loop detectors are used wherever vehicles have to be detected. For example for monitoring and safeguarding accessways or for counting vehicles. The output signal can be used for controlling door and gate

drive mechanisms, operating barriers, controlling traffic light systems in car parks or activating card dispensers in car parks.

Functional description LD20 and LD40

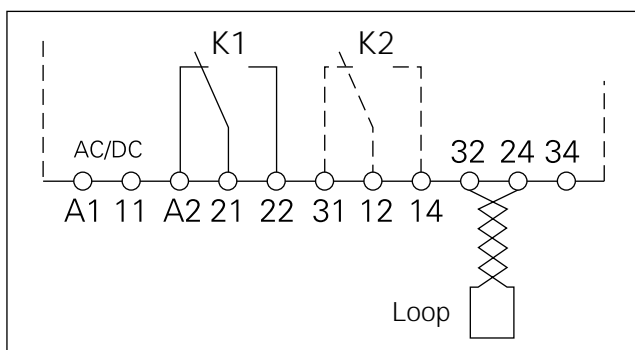
Loop detectors in the LD20 series are evaluation devices which each monitor one inductive loop. LD40 series units each monitor two inductive loops. The principle is based on a change in the inductance within

the loop which is caused by the metallic components of passing vehicles. The changes are picked up and evaluated by a microprocessor.

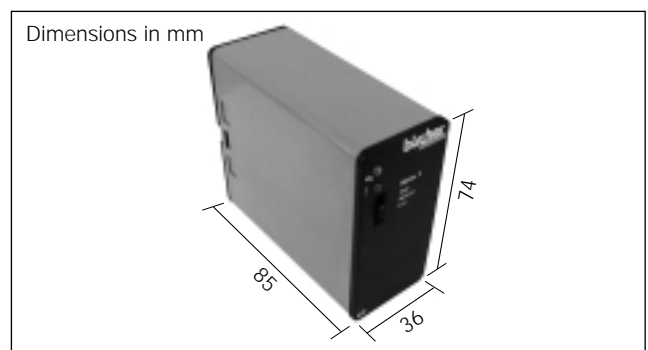
Benefits for the customer

- **Ease of use** thanks to automatic calibration when the operating voltage is applied
- **Reliability** thanks to compensation for temperature fluctuation
- **Direction recognition** by special direction logic functions (LD40 series only)
- **Pre-configured units** can be ordered so that the optimum product can be quickly and easily used in every application
- **Avoidance of malfunctions** by the opportunity to select different frequencies
- **Setting the sensitivity** on a 3-position switch (high, medium, low)
- **Simple fault detection** with light-emitting diode to display possible malfunctions
- **Safe response to malfunctions** and fault message display by light-emitting diode or a relay
- **Simple reset function** to force a re-calibration by changing the sensitivity. There is no need to shut off the voltage to do this

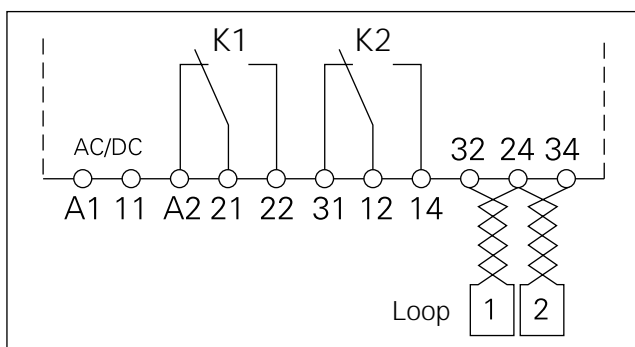
Connection diagram LD20



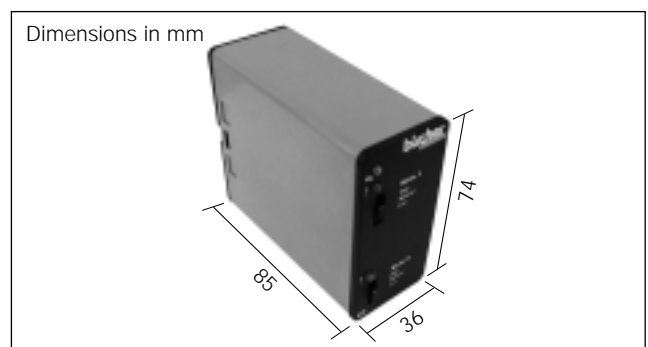
Dimensions LD20



Connection diagram LD40



Dimensions LD40

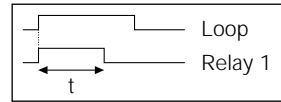


Technical data

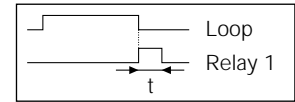
Operating voltages	24 V ACDC $\pm 10\%$ 115 V AC $\pm 10\%$ 230 V AC $\pm 10\%$
Power consumption	< 6 VA
Relay output	230 V / 2 A AC1
Duty cycle	100%
Frequency range	20 kHz to 170 kHz
Loop inductance (incl. connection wiring)	ideal: 80 μH to 300 μH max.: 40 μH to 1000 μH
Loop connection wiring	max. 200 m, twisted at least 20 times/m
Operating temperature	-20° C to +55° C
Storage temperature	-40° C to +70° C
Temp. compensation	max. 50° C/h (automatic)
Hold interval in case of power loss	3 sec.
Protection class	IP30
Interference protection	in acc. with EN 50081-1 / EN 50082-2

Functions of the output relays

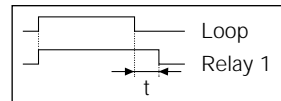
The following functions are preset at the factory and can be ordered as required.



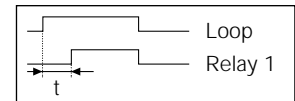
H = Hold interval



N = Afterpulse



B = Drop-out delay



A = On delay

Functions of the second output relay

(LD20 series only)

- LD21** The second output relay has the same function as the first output relay.
- LD22** The second output relay produces a pulse of 100ms when the loop is activated.
- LD23** The second output relay acts as a fault relay and picks up when a fault occurs.
- LD24** The second output relay produces a pulse of 100ms when the loop is deactivated.

Mode

The required mode can either be set by the user on a DIP switch or the unit can be configured for a particular mode in advance. Refer to the operating instructions for the precise switch settings.

LD20

Standard settings for door and gate (.1.)

The output relay energises when the loop is activated and is released when the loop returns to a non-activated condition. A malfunction causes the output relay to drop out automatically.

Barrier systems (.2.)

The output relay energises when the loop is activated and releases when the loop returns to a non-activated condition. A malfunction causes the output relay to energise automatically.

Quiescent current (.3.)

The output relay energises after calibration. The output relay releases when the loop is activated and energises again when the loop returns to a non-activated condition. A malfunction causes the output relay to release automatically.

LD40

Standard settings for door and gate (.1.)

The corresponding output relay energises when loop 1 or 2 is activated and releases when the loop returns to a non-activated condition. A malfunction causes both output relays to release automatically.

Barrier systems (.2.)

The corresponding output relay energises when loop 1 or 2 is activated and releases when the loop returns to a non-activated condition. A malfunction causes both output relays to energise automatically.

Quiescent current (.3.)

Both output relays energise after calibration. The corresponding output relay releases when a loop is activated and energises again when the loop returns to a non-activated condition. A malfunction causes both output relays to release automatically.

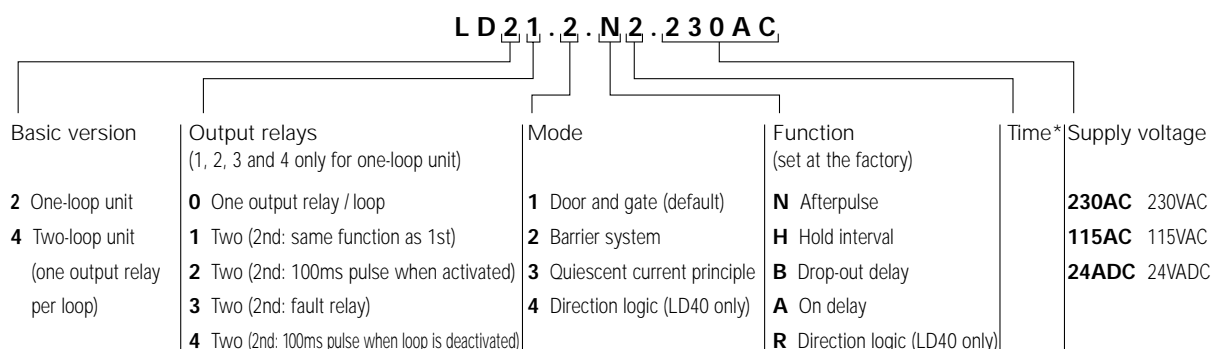
Direction logic (.4.)

This mode makes it possible to display which direction a vehicle is moving in. If it moves from loop 1 in the direction of loop 2, output relay 1 energises. In the reverse direction, relay 2 energises. A malfunction causes both output relays to release automatically.

Applications



Ordering information



* Time	0	0.1 s	1 s	2 s	5 s	10 s	60 s	5 min	2 min	Infinite
	0	1	2	3	4	5	6	7	8	9
Output function N		X	X			X	X			
Output function H							X	X	X	X
Output function B				X	X	X				
Output function A		X	X	X	X	X				
Output function R	X									

Pre-fabricated loops (type SF) can be supplied for installation on request.
Please state the circumference and required length of connection wiring.

Your contact

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