



# Line Troll® LT110T $\mu$ r

Fault Passage Indicator for overhead lines (66-132kv)

LineTroll®110T $\mu$ r Fault Indicator indicates earth- and short circuit-faults. The indicator can detect and independently indicate both permanent and transient faults. In addition to a super intensive RED LED for local fault indication, the indicator is equipped with a short range radio that communicates with the ComTroll 115C collector for SCADA integration.

Features LineTroll®110T $\mu$ r:

- Programmable operating parameters
- Integrated addressable short-range radio.
- High visibility ( > 30 lumens)
- Usable on all Sub-Transmission Voltage distribution networks 66-132KV.
- Usable on multi circuit systems
- Voltage or current as start criteria (programmable)
- Dual indications (permanent and transient faults, Red and Green)
- Resistant to tough weather conditions
- Battery capacity monitoring



## Functional Description

LineTroll®110T $\mu$ r continuously monitors the line voltage and phase current, the sources of information it needs to operate. The unit is fully self-contained, no external transformers or connections is required.

During normal line conditions, LineTroll®110T $\mu$ r remains extinguished.

The indicator is looking for a specific sequence of line conditions to happen before it starts flashing. The general sequence is as follows:

- A. The line should be energised (voltage or current present) for a minimum of 5 seconds.
- B. Di/Dt: The line current should increase rapidly by the amount of a user set value (the step level).  
Threshold: The line current exceeding a preset current level
- C. The line should be de-energised.  
(voltage or current not present)

The user may program the criteria for operation to suit his local requirement by manipulating a bank of micro-switches inside the indicator, or remotely from ComTroll 115C

**Note: Voltage or current as start and stop criteria is user programmable.**



## Technical Specifications

Application:	Short circuit and Earth fault indication for overhead lines.	
	System Voltage:	MV-& HV-network (66-132kV)
	Grounding system:	Isolated, resistor and solidly grounded
Fault-detection:	Sensitivity Di/Dt:	500, 1000A*
	Sensitivity threshold:	500, 1000A*
	Duration:	>60ms (20ms on request)
Innrush-blocking:		5 sec
Reset:	Automatic:	Re-energized line (Voltage or current, programmable)*
		Minimum reset current: 50A
		Minimum reset voltage: 50kV
	Timer:	2, 6, 12, or 24 hours
	Manual:	By magnet
Note *: All threshold, timers etc. are selectable and programmable by microswitches.		
Indication:	Remote (radio)	In combination with ComTroll 115C Collector
	Telegram:	Faults, low battery, & heartbeat.
	Frequency:	2,4 GHz, ISM-band, address protected.
	Output Power:	1mW (0dBm)
	Data rate:	250kbit/s
	Range:	30-50m LOS, (margin =20dB/ Rec.sens: -90dBm)
	Locally:	1 Super intensity RED LED for permanent fault
		1 Green LED for transient fault (24 hours)
		1 Orange Led for low battery indication
	Intensity:	> 30 lumens LED
Power supply:		1 Lithium Cell (D size 16,5 Ah)
Battery change with radio not activated:		Every 1500 flash hours or 10 years
With radio activated		Every 1500 flash hours or 5-7years
Mounting:	Hot-stick	Grip-all Clampstick
	Conductor size:	5-36 mm
Temp:		-40 to +85 deg
Housing:		Polycarbonate, UV stablized
	Dimension:	200 x 150mm
	Weight:	460g (including box and battery)
	Degree of protection:	IP54 / IP65 on request)

## Ordering Information

Product nr: 04-1300-01	LineTroll®110Tµr
Product nr: 03-0115-00	ComTroll 115C collector
Product nr: 1056	KBB-11 replacement battery
Product nr: 17-1200-00	KBN-4 Mounting tool

## About Nortroll AS

Since the foundation in 1976, Nortroll AS has devoted its activities to the development of equipment aiming to reduce electric utilities outage times. We offers a wide range of products for fault detection and remote operation in the MV Distribution

## Your Representative



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