

# Cable Identifier

## Reliable cable selection for energised and de-energised cables



- Inexpensive cable selection system
- Easy to operate
- Safe to operate
- Very small

### DESCRIPTION

Clear identification of a cable before it is cut or fitted has huge safety implications. Any mistakes here can result in fatal consequences for the cable fitter and may cause outages for the connected customers. The CI cable identification system has been developed to make this work much easier and safer.

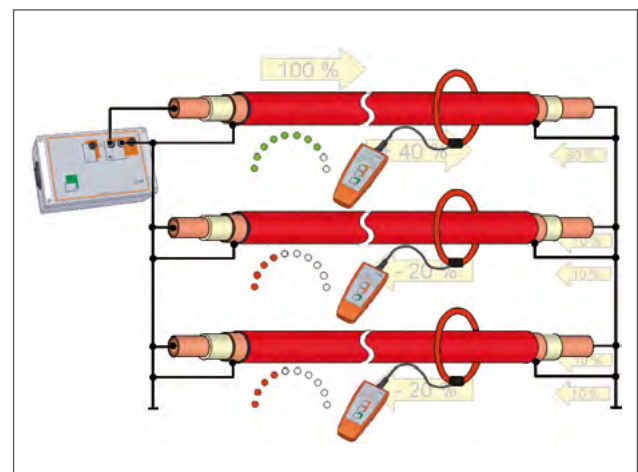
The system consists of the current impulse generator and the receiver CI RX. This receiver is connected by (AZF 250-CI or AZF 150-CI) flex clamp for decoupling the identification signal. The pulse generator CI TX generates single sawtooth pulses with a peak current up to 100 A and transmits them into the cable being identified. The current flow of these impulses causes an electromagnetic field with a defined polarity around the cable which is received with the flex coupler of the receiver CI RX, automatically synchronised and displayed by the LED scale. The only possible adjustment is the display sensitivity.

A special software function controls and verifies all parameters of the received pulse.

The following parameters are evaluated:

- Impulse shape
- Polarity
- Amplitude
- Frequency (2 s intervall)

The directional clamp in combination with the parameter monitoring by the receiver provides a safe selection regardless of any interference.



The user must only verify the display. This means that generally only one conductor or cable has the correct polarity while all other cables have the opposite polarity.

Deviations from these requirements must lead to a control of the complete setup.

**Selection in de-energised cables with the CI Set**

The CI TX an active, internally powered generator, is designed for the selection of de-energised cables. This mains or rechargeable battery powered unit generates active impulses up to 100 A. The pulse can be fed via direct connection or with the optional transmitter clamp (SZ 80). The operating time of up to 4 hours permits a very flexible use.

**Low-voltage applications**

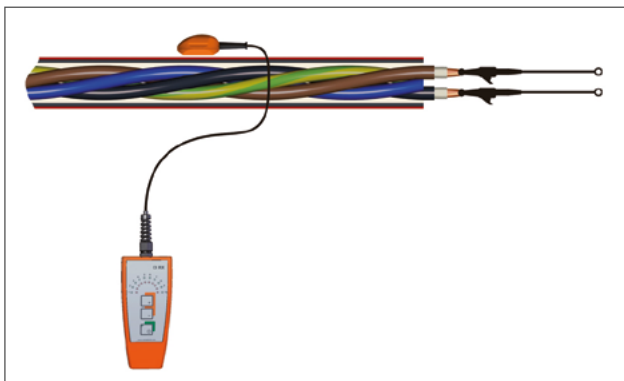
Work on low-voltage cable networks is increasingly being carried out live. This demands a reliable system to identify the correct cable, which naturally has to be possible without switching off the mains voltage.

**Identification of energised cables with the LCI Set**

The impulse generator LCI TX is connected by a protective conductor lead with the 115 V/230 V AC supply. The feeding transformer is loaded with current pulses of approx. 80 A. in 2 second intervals. This results in a pulsed current on the section of cable which is received by the flexible clamp and is thus used to reliably identify this section of cable (not suitable for IT networks!). Two LEDs indicate the correct connection polarity. This guarantees correct connection to safety sockets.

**Selection between two phases, and in TT and IT systems**

For the selection between phases and with the twisted field method there is the LCI TX 440, which can be connected directly between two phases of a low voltage distribution.

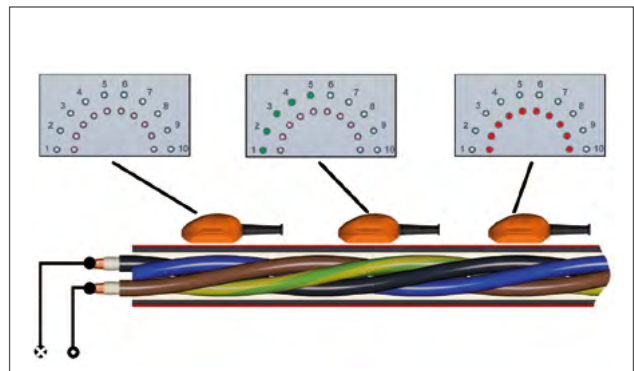


The selection generator LCI TX 440 is connected between two phases up to 440 V. The requirement is a current flow through the feeding transformer. With the twisted field sensor TFS CI, the required phase is then directly detected through the outer sheath.

For an even safer selection, this system provides the possibility of using the Flex Coupler to select the correct cable first and then to confirm this additionally by using the twist field sensor to verify the specific phase in the cable.

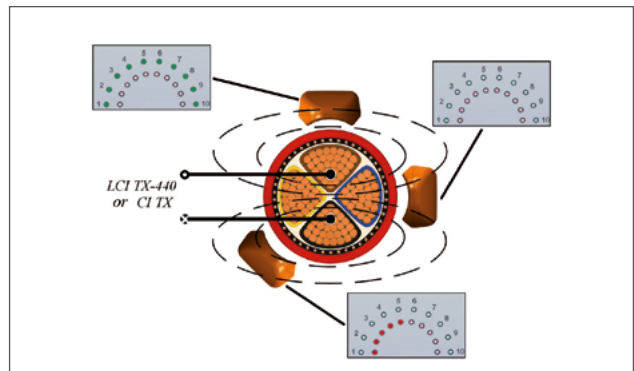
In this case the cable can be opened at the outer sheath, and the phase can be exposed before cutting or working on it.

Especially for unmarked phases as they exist in PILC or similar, this procedure is very helpful.



**Advantage of the twist field method with current impulse**

In opposition to a conventional twist field method with audio frequency, the use of the TFS CI in combination with the polarised selection impulse has a significant higher selectivity. This technology has a very clear, narrow limited maximum on top of the phase to be selected, as well as the same clear negative maximum on the return line. Unused conductors will not produce any signal.



This twist field selection works as well with the LCI TX (Connection L-N).

For the connection on open LV distributions the system has standard safety clips with integrated fuse acc. to CAT IV / 600 V. For a direct connection to NH fuses there is an optional NH test adapter for the insertion on top of NH fuses. This enables a mechanically solid and high current capable connection. This adapter is fused with 6 A, and can be directly used at the LCI TX 440 connector or by a screw-in adapter for the fused clip base, to be used with the LCI TX.

The small dimension of the selection generators permits easy storage inside road pillars.

**TECHNICAL DATA\***

**Transmitter for identification on de-energised cables CI TX**

<b>Pulse voltage</b>	55 VDC
<b>Pulse current</b>	max. 100 A
<b>Pulse sequence</b>	30/min
<b>Pulse width</b>	72 ms
<b>Power supply</b>	100 ... 240 VAC; 50/60 Hz; 12 VDC rechargeable battery
<b>Operating time</b>	4 h ion rechargeable battery
<b>Charging time</b>	6 h
<b>Weight</b>	1.6 kg
<b>Dimensions</b>	201 x 120 x 80 mm
<b>Protection class</b>	IP 54
<b>Operating/storage temperature</b>	- 10 °C ... + 60 °C
<b>Operating humidity</b>	Max. relative humidity 93 % at 30 °C

**Universal-receiver CI RX**

<b>Sensor</b>	Flex-Coupler Ø ca. 250 mm (inside 240 mm)
<b>Amplifier setting</b>	10 steps; 3 ... 24 dB
<b>Power supply</b>	2 x 1.5 V AA batteries
<b>Operating time</b>	> 50 h
<b>Weight</b>	0.4 kg
<b>Dimension</b>	150 x 65 x 35 mm
<b>Protection class</b>	IP 54
<b>Operating/storage temperature</b>	- 10 °C ... + 60 °C
<b>Operating humidity</b>	Max. relative humidity 93 % at 30 °C

**Transmitter for identification on energised cables LCI TX**

<b>Operating voltage</b>	100 ... 240 VAC; 50/60 Hz
<b>Pulse current</b>	80 A
<b>Pulse sequence</b>	15/min
<b>Pulse width</b>	1.5 ms
<b>Weight</b>	0.5 kg
<b>Dimension</b>	151 x 101 x 60 mm
<b>Protection class</b>	IP 54
<b>Operating/storage temperature</b>	- 10 °C ... + 60 °C, CAT IV/300 V
<b>Operating humidity</b>	Max. relative humidity 93 % at 30 °C

**Transmitter for phase to phase identification on energised cables LCI TX 440**

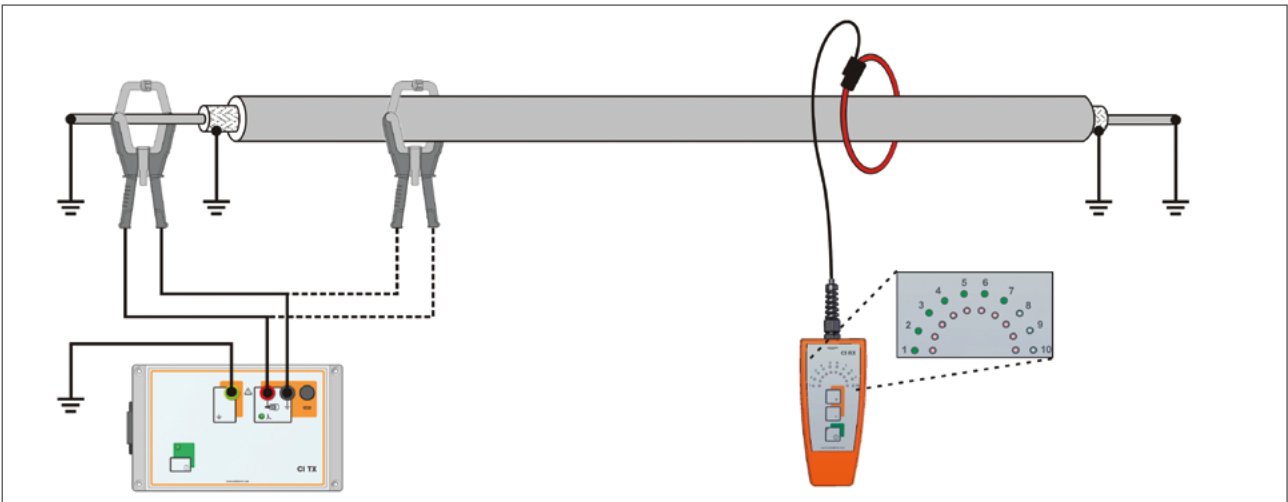
<b>Operating voltage</b>	240 ... 440 VAC; 50/60 Hz
<b>Pulse current</b>	80 A
<b>Pulse sequence</b>	15/min
<b>Pulse width</b>	1.5 ms
<b>Weight</b>	0.5 kg
<b>Dimension</b>	151 x 101 x 60 mm
<b>Protection class</b>	IP 54
<b>Operating/storage temperature</b>	- 10 °C ... + 60 °C, CAT IV/600 V
<b>Operating humidity</b>	Max. relative humidity 93 % at 30 °C



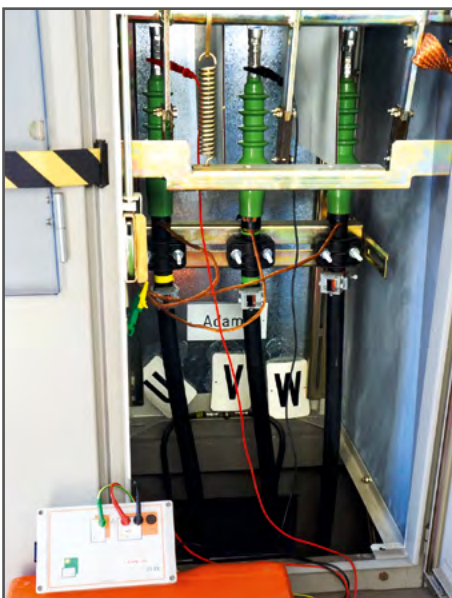
Complete-Set CI & LCI, Order no.: 820011449



CI & LCI set with transport case



Connection variants SZ 80



Signal feed-in

**ACCESSORIES**



CI receiver with cable



SZ 80



PAS CI



TFS CI



Receiver connection



Transport case

## ORDERING INFORMATION

Product Order no.	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Complete set CI &amp; LCI-440 Order no. 108300606</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Complete set CI &amp; LCI Order no. 820011449</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Live Cable Identifier Phase-Phase (LCI-440) Order no. 108300513</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Live Cable Identifier Order no. 820011450</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Cable Identifier Order no. 820011451</div> </div>				
	<b>CI Receiver</b> Order no. 820010874	✓	✓	✓	✓
<b>CI Transmitter</b> Order no. 1008551	✓	✓	✗	✗	✓
<b>LCI Transmitter</b> Order no. 1008601	✗	✓	✗	✓	✗
<b>LCI 440 Transmitter (phase-phase)</b> Order no. 820025001	✓	✗	✓	✗	✗
<b>Twisted field sensor</b> Order no. 820024979	✓	✓	✓	✓	✓
<b>Phase identification sensor</b> Order no. 820014535	✓	optional	✓	optional	optional
<b>Lead kit for CI Transmitter</b> Order no. 128314893	✓	✓	✗	✓	✓
<b>Lead kit for LCI</b> Order no. 128314895	✗	✓	✗	✓	✗
<b>Lead kit for LCI Transmitter (phase-phase)</b> Order no. 128314895	✓	✗	✓	✗	✗
<b>Transport-case</b> Order no. 90004532	✓	✓	✓	✓	✓
<b>Mains cable EU (plug)</b> Order no. 90020175	✓	✓	✗	✓	✓
<b>Mains cable UK (plug)</b> Order no. 2008761	✓	✓	✗	✓	✓
<b>Mains cable US (plug)</b> Order no. 2008762	✓	✓	✗	✓	✓
<b>User manual</b>	DE / EN / ES / FR / HU / RU				
<b>Flexible clamp, 250 mm</b> Order no. 820013107	Please select one type of clamp.				
<b>Flexible clamp, 150 mm</b> Order no. 820013106					
<b>SZ 80 set, including accessories</b> Order no. 2007615	optional	optional	✗	✗	optional

\* We reserve the right to make technical changes.

### SALES OFFICES

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ISO 9001

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