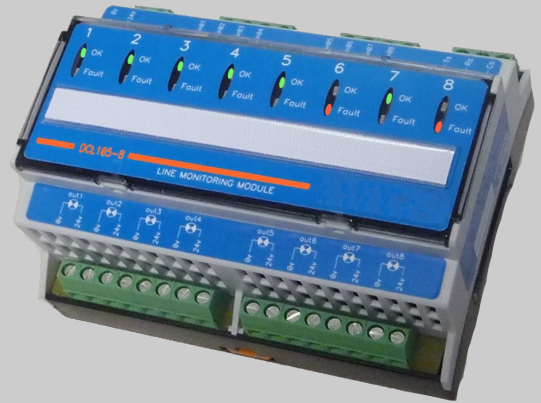


- **8 simultaneous lines monitoring**
  - 1 green Led per channel "line ok, presence of load"
  - 1 red Led per channel " line break , missing load"
  - 1 inhibition switch per channel
  - 1 relay output : synthesis / watchdog
- **Control load presence when powered or not**
  - By injection of a quiescent current (0.3mA)
  - Wide range of load capacity (from 10 mA to 2A)
- **Analog technology**
  - Allowing to increase functional safety
- **Operational Safety level : SIL2 / SIL3**
  - According to IEC 61508
- **Applications**
  - Load Monitoring for safety devices (siren, horn, flash, flashing light)
  - Continuity check for indicator lights and warning lights



The DCL105-8 is a monitoring device, that ensure the presence of load at the end of a wired line, by injection of a control current. The LED on the front panel allow a quick diagnosis of the installation and the identification of any faulty channel. Synthesis relay allows remote retransmission of the output status and device functional control.

**Implementation:**

The DCL105-8 module take place directly between an existing relay interface and loads to drive (siren, light, horn, ...)  
The module monitors the load and the line whatever the state of the control relay (load on or off)

**Operating principle :**

The DCL105-8 control continuity according of two principles:

- 1) If the input control is "OFF" (load turned off )  
the module injects a constant current (0.3 mA) in the output circuit to verify the continuity of the wiring.
- 2) When the control input is "ON" (powered load)  
The module measures the current drawn by the load to determine its presence. For each channel, if the output circuit is closed, the green LED is lights, if the circuit is open, the red LED lights up.  
When all output circuits are closed, synthesis relay closes.  
The opening of any output circuit causes the release of synthesis relay.  
The loss of the power supply voltage also causes the release of the relay (watchdog function)  
An unused channel can be inhibited by an internal switch located under the front panel (in this case both channel LEDs are off) and inhibited channel has no more effect on the synthesis relay.  
A non-monitored channel (inhibited by internal switch) remains functional, and can be controlled by the input command, only the monitoring function is affected.  
Each output is protected by 2 internal replaceable fuses (hot side and cold side) accessible under the front panel.  
The fuses are TE5 type (rectangular) also compatible with type TR5 (cylindrical). The blowing of a fuse causes the default of channel (red Led and synthesis relay. Fuses are included in the monitoring loop)

**Feature:**

- modular DIN rail standard enclosure (approx. 105mm)
- Connection on screw terminal blocks(max. section 2.5 mm <sup>2</sup>)
- IP20 protection (housing / terminals)
- Conformal coating.

**Recommended commissioning :**

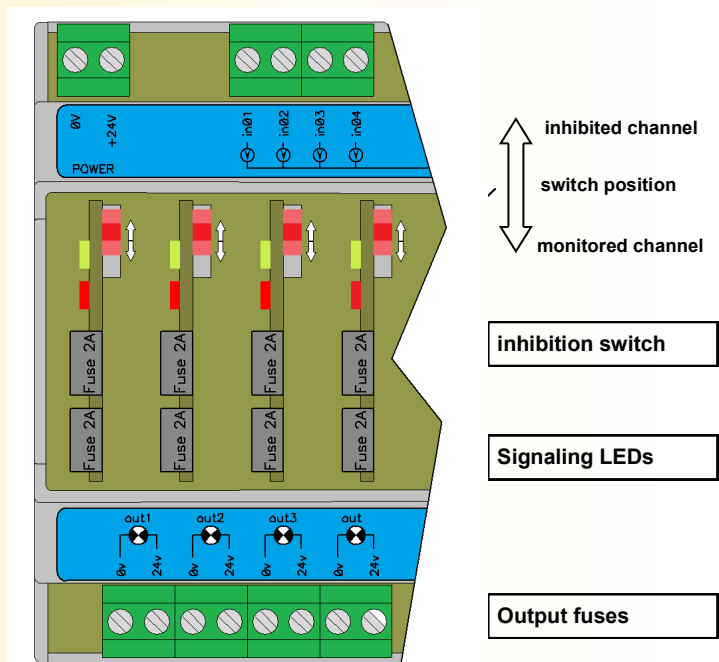
Maximum length recommended for output cable : 1000 meters.  
To avoid furtive action on synthesis relay, do not pass the output cable near power circuits. Delay the relay action in highly EMC disturbed environment.

**Operational safety data:**

Component type A, HFT = 0  
 $\lambda$ f : 250 fit (1/MTBF)  
 DC : 94 % (Diagnostic Coverage)  
 PFH : 18 fit (Probability of Failure per Hour)  
 SFF : 95.2 % (Safe Failure Fraction)



**Internal view (cover up)**



**Version and order code:**

**DCL105-8:** 8 channels, 24Vdc power supply

**Option :** -SIL2 / SIL3 according to IEC 61508

[Request a quote](#)

**Power Supply**

24Vdc +/-15%  
intrinsic consumption < 100mA (2.5VA)

**OUTPUT monitored loads**

monitoring current 0.3mA typical  
output voltage input voltage - 1.6Volts  
output current 10mA to 2A per channel  
Protection internal fuse 2A

**SYNTHESIS RELAY**

Isolated changeover contact: 1500 Vac  
Switching capacity 1A / 250 Vac / 60Va  
Mechanical endurance 1 x 10<sup>9</sup> operation  
Electrical endurance 3 x 10<sup>5</sup> @ 230Vac 0.5A  
Rise time / release time 3ms / 5ms

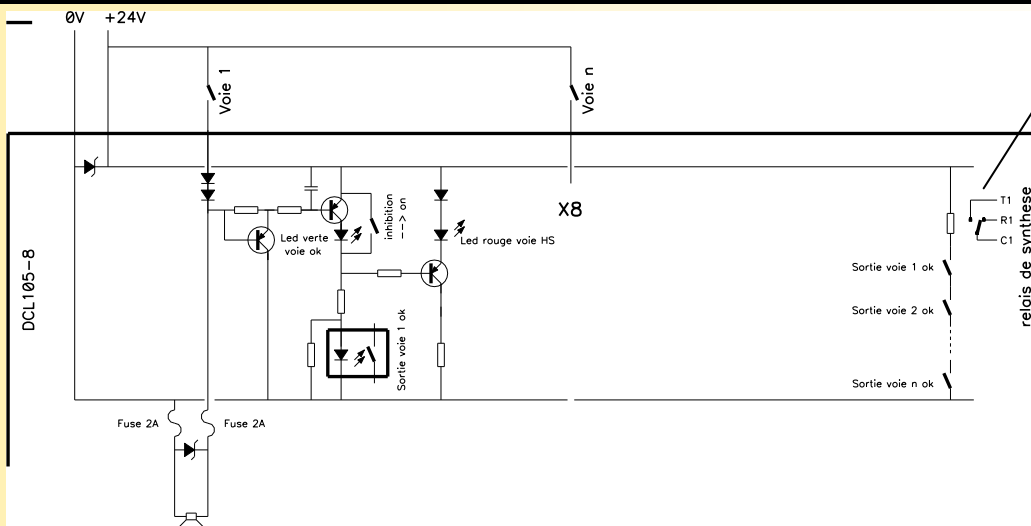
**ENVIRONMENT**

Operating temperature -20.....+55 °C  
Storage Temperature -25.....+85 °C  
Humidity (not condensed) 85 %  
Weight (depending on number of channels) ~ 300 g  
Protection IP20  
dielectric strength 1500 Vrms continuous  
( inputs, power supply / relay )  
Insulation resistance > 1 Gohms @ 500Vdc  
MTBF (MIL HDBK 217F) > 4 000 000 Hrs @ 25°C  
Lifetime > 200 000 Hrs @ 30°C

**Electromagnetic compatibility 2004/108/CE / Low Voltage Directive 2006/95/EC**

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	

**Internal synoptic**



Synthesis relay is activated if all outputs are closed. Unused outputs must be inhibited using the dip switch.

**WIRING AND OVERALL DIMENSIONS:**

