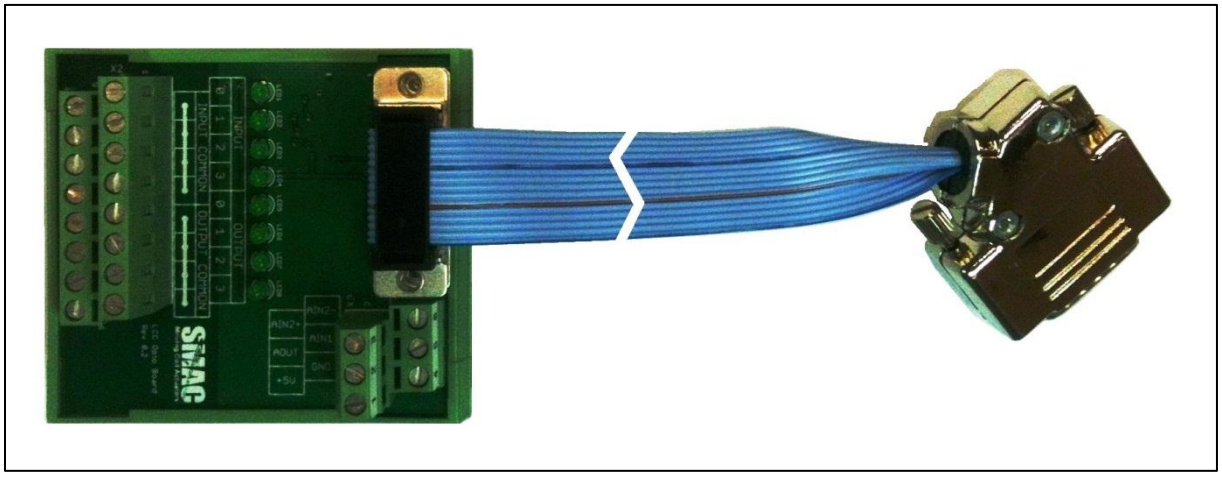
LCC–Opto Board

LCC-Opto Board functionality

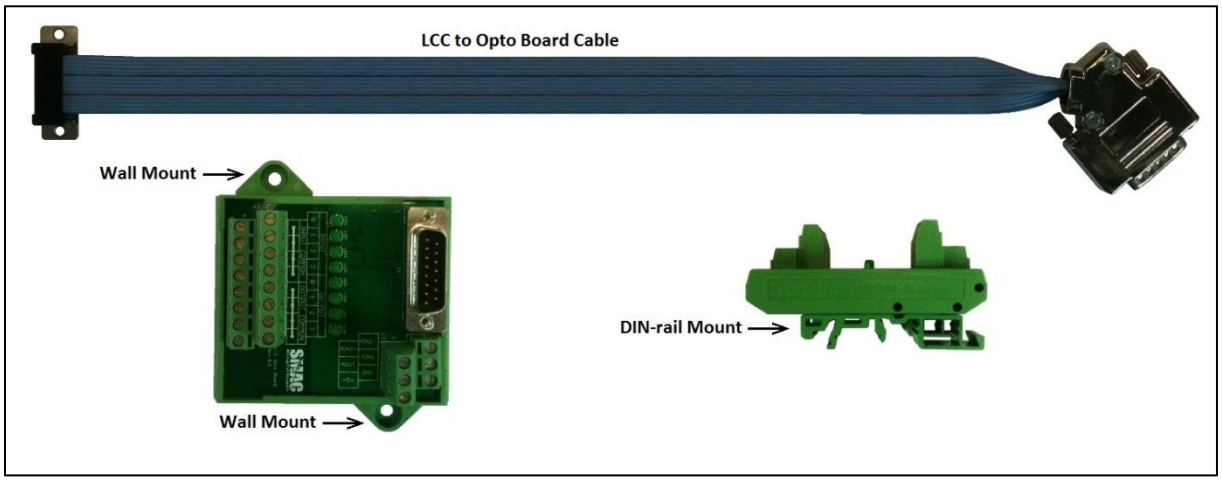
The Opto Board is designed in to connect the LCC digital I/O's to the 24V PLC I/O.
The LCC Opto Board provides the following functions:

- Opto-isolation between a LCC controller and external digital I/O on terminal block X2
- Screw connections for analog I/O on terminal block X3 – not isolated
- Status LEDs for the digital I/O



The LCC Opto Board Contains the following items:

- Opto Board
- 60 cm long ribbon cable to connect to LCC
- Din-rail mount or Wall mount



Electrical specification LCC Opto Board

Connector X1 – 15 pole male Sub-D connector

Used to connect to the GPIO connector of the LCC controller.

For electrical characteristics see the LCC Product manual.

X1 pin number	Signal
1	+5V (from controller)
2	Analog input 2 +
3	Analog input 2 -
4	Gnd
5	General purpose output 2
6	General purpose output 0
7	General purpose input 2
8	General purpose input 0
9	Analog input 1
10	Analog output 1
11	Gnd
12	General purpose output3
13	General purpose output1
14	General purpose input 3
15	General purpose input 1
Shell	Gnd

Terminal block X2:

Connections for the external opto-isolated digital inputs and outputs.
Isolation Voltage 2.5 KV (50 Hz, 1 min)
Digital inputs and outputs are not sensitive for polarity.

Specification for digital inputs:

Input type: AC-Input optocoupler with series resistor (4700 Ω)
Input voltage range: 10 .. 32 Vdc
Input current at 10 Vdc : 2 mA
Input current at 24 Vdc : 5 mA
Input current at 32 Vdc : 6.5mA

Specification for digital outputs:

Output type: Bi-directional Photo MOSFET with external Transient Voltage Suppressor (36V)
Output voltage range: 10 .. 32 Vdc
Output current: 200 mA max
Output resistance: 1 Ω typical (10 Ω max).

Note: The digital outputs have no internal current limiter so the application must limit the output current to a safe value. A short circuit of the load will destroy the output circuit

Note: When switching inductive loads no fly back diode is necessary. The on board 36V transient suppressor will eliminate a large voltage spike that could damage the output

X2 terminal number	Signal
1	Isolated Input 0
2	Isolated Input 1
3	Isolated Input 2
4	Isolated Input 3
5	Isolated Output 0
6	Isolated Output 1
7	Isolated Output 2
8	Isolated Output 3
9	Connected as common rail for external inputs. Can be connected to external supply or ground depending on the application
10	
11	
12	
13	Connected as common rail for external outputs. Can be connected to external supply or ground depending on the application
14	
15	
16	

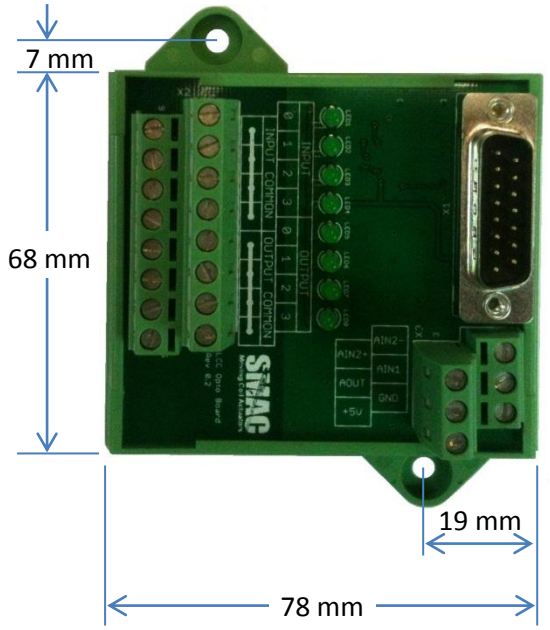
Terminal block X3:

Connect directly to the LCC Analog I/O and supply output pins.
For electrical characteristics see the LCC Product manual.
Note that there is no opto isolation for the Analog I/O

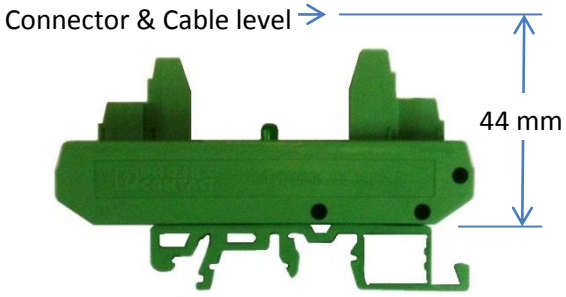
X3 terminal number	Signal
1	+5V (from controller)
2	Analog output
3	Analog input 2 +
4	Gnd
5	Analog input 1
6	Analog input 2 -

LCC-Opto Board dimensions

The Opto Board dimenstions are shown below. The green box and the optional mounting features are made by Phoenix Contact (UMK-BE, -SE, -FE & -BF products).



The mounting holes are 4.5 mm in diameter and can hold screw heads with a diameter of 9.5 mm.



The height is including the connector of the cable to the controller.

For low rail add 16 mm for rail + holder.
For high rail add 24 mm for rail + holder.