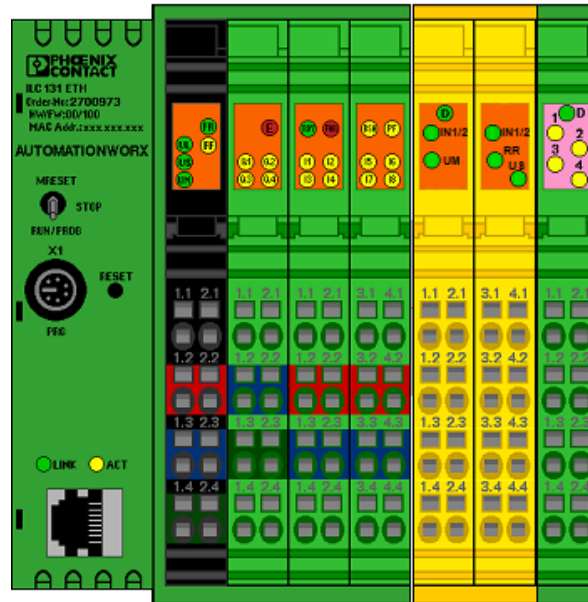
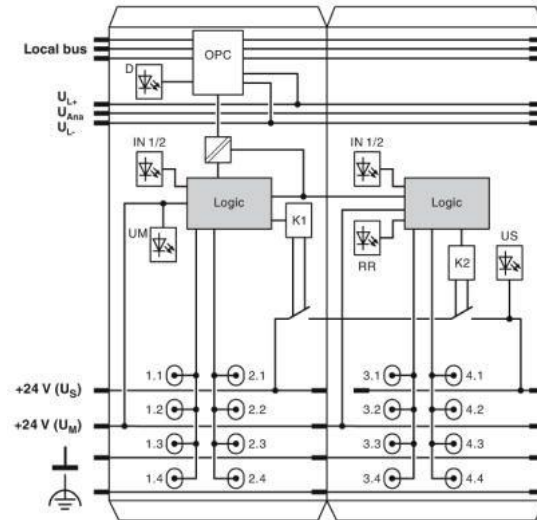


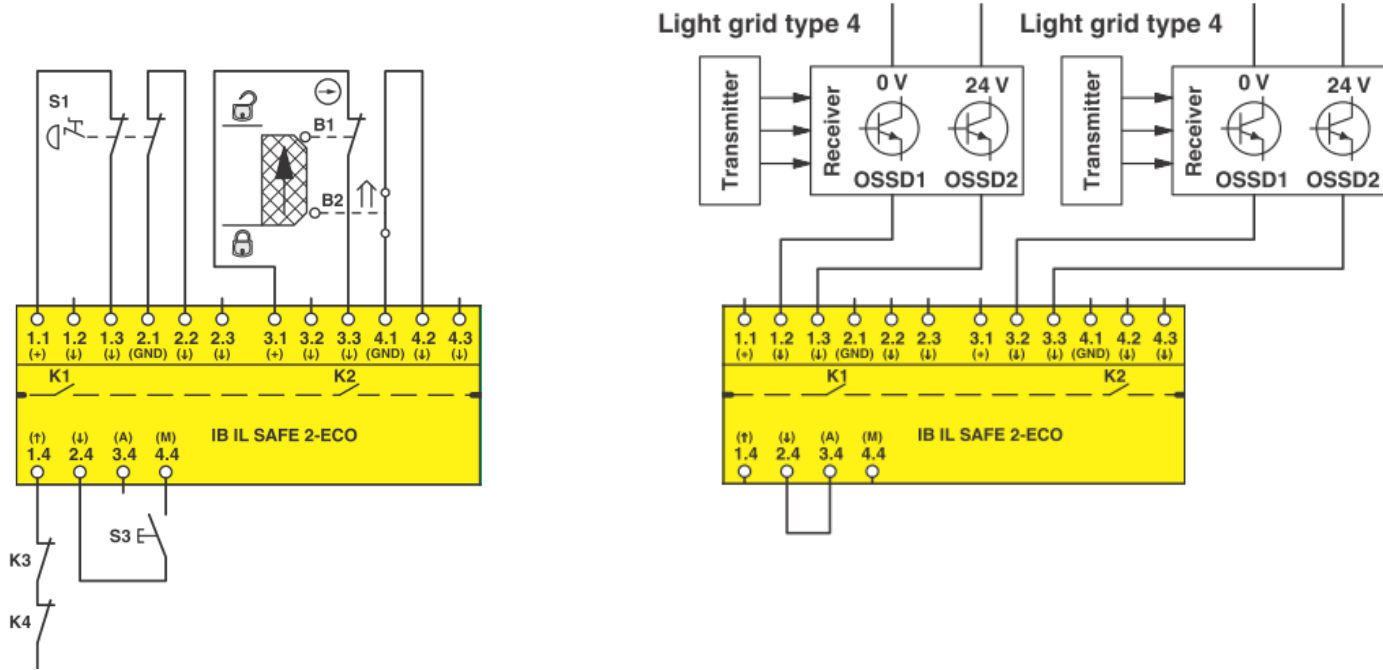
# GUIA DE USO DO CARTÃO DE SEGURANÇA SAFE 2 ECO COM CLP INLINE



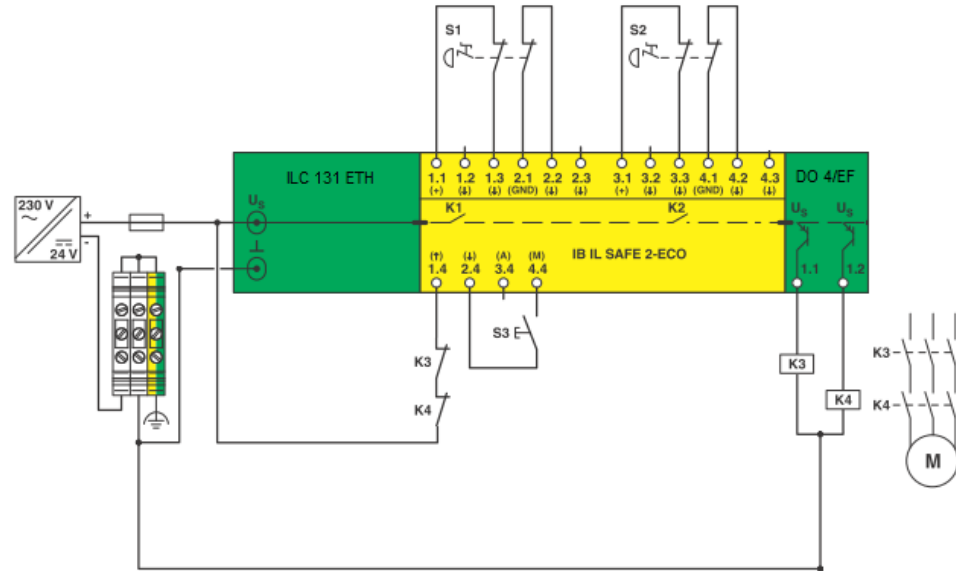
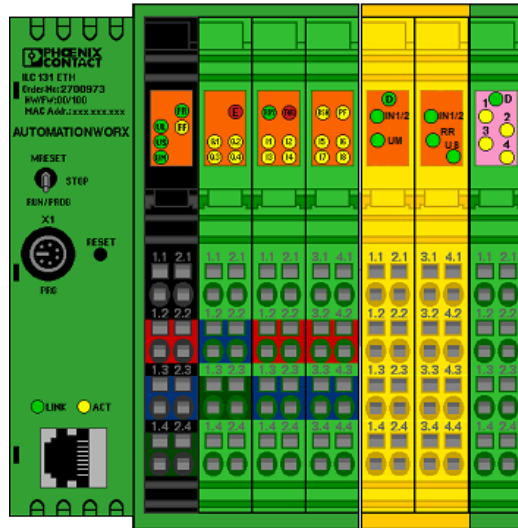
- O Cartão de segurança **SAFE 2 ECO** tem funcionalidade equivalente ao relé de segurança, porém ele pode ser acoplado diretamente ao barramento Interbus.



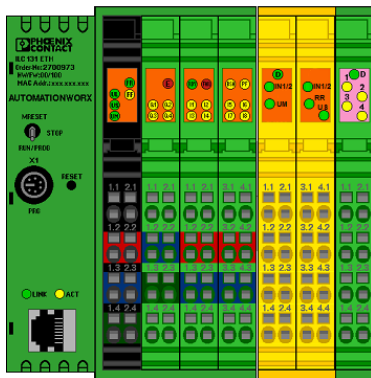
- Pode ser usado com sensores eletrônicos de segurança ou até mesmo com sensores de contato mecânico, como botão de emergência e porta de segurança.



- Não requer programação. Quando os sensores monitorados estiverem em condição segura, o módulo libera alimentação ao cartões subsequentes com as saídas digitais que alimentam e controlam os contatores de potência.



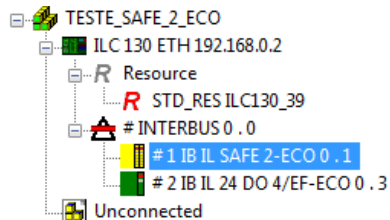
- O cartão **SAFE 2 ECO**, possui 4 bits que indicam os respectivos status do sistema.



Status do Sensor 1 de Segurança  
 Status da Alimentação do barramento  
 Lógico INTERBUS



Status do Sensor 2 de Segurança  
 Requisita Reset  
 Status da Alimentação do barramento  
 de IOs INTERBUS



Device	Process Data Item	I/Q	Data Type
# 1 IB IL SAFE 2-ECO 0 . 1	Sensor circuit 1	I	BOOL
# 1 IB IL SAFE 2-ECO 0 . 1	Sensor circuit 2	I	BOOL
# 1 IB IL SAFE 2-ECO 0 . 1	Acknowledgement request	I	BOOL
# 1 IB IL SAFE 2-ECO 0 . 1	Segment voltage	I	BOOL
# 1 IB IL SAFE 2-ECO 0 . 1	~DI 4	I	BITSTRING...

Status do Sensor 1 de Segurança  
 Status do Sensor 2 de Segurança  
 Requisita Reset  
 Status da Alimentação do barramento de IOs INTERBUS

- Variável “Liga\_Motor” em FALSE, conseqüentemente “Saida\_K1” e “Saída\_K2” também;
- Sensor de segurança 1 e 2 estão acionados;

The image shows a screenshot of a PLC software interface. The top part displays a ladder logic diagram with a single normally open contact labeled 'Liga\_Motor' with a value of '0'. This contact is connected to a coil that branches into two parallel outputs, 'Saida\_K1' and 'Saida\_K2', both with values of '0'. Below the diagram is a table titled 'Code:Main' showing the current state of various variables.

Variable	Value	Type	Instance
..... Sensor_Safety_1	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_1
..... Sensor_Safety_2	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_2
..... Alimentacao_Segment_Interbus	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Alimentacao_Segment_Interbus
..... Request_Reset	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Request_Reset
..... Saida_K1	FALSE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K1
..... Saida_K2	FALSE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K2
..... Status_K1_K2	FALSE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Status_K1_K2

- Variável de controle “Liga\_Motor” em **TRUE**, consequentemente “Saida\_K1” e “Saída\_K2” também, porém eletricamente os contatores não foram energizados, conforme “Status\_K1\_K2” em **FALSE**;

The image shows a screenshot of a PLC software interface. The top part displays a ladder logic diagram with a single red line representing a normally open contact labeled 'Liga\_Motor' with a '1' below it. This line connects to a junction point that branches into two parallel outputs, both labeled 'Saida\_K1' and 'Saida\_K2' with a '1' below each. The bottom part of the screenshot shows a table with the following data:

Variable	Value	Type	Instance
Sensor_Safety_1	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_1
Sensor_Safety_2	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_2
Alimentacao_Segment_Interbus	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Alimentacao_Segment_Interbus
Request_Reset	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Request_Reset
Saida_K1	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K1
Saida_K2	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K2
Status_K1_K2	FALSE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Status_K1_K2

- Sensores de segurança foram colocados em modo seguro, conforme “Sensor\_Safety\_1” e “Sensor\_Safety\_2” em **TRUE**;
- Nesta condição o módulo requisita o reset, conforme variável “Request\_Reset” em **TRUE**;
- Perceba que os contatores ainda não foram energizados, pois ainda falta o comando de reset;

The image shows a screenshot of a PLC software interface. The top part displays a ladder logic diagram with a single red line representing a normally open contact. The contact is labeled 'Liga\_Motor' on the left and has a '1' below it. The line connects to a junction point (black dot) on the right. From this junction, two red lines branch out to two outputs: 'Saida\_K1' and 'Saida\_K2', both with '1' below them. Below the diagram is a table with the following data:

Variable	Value	Type	Instance
Sensor_Safety_1	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_1
Sensor_Safety_2	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_2
Alimentacao_Segment_Interbus	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Alimentacao_Segment_Interbus
Request_Reset	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Request_Reset
Saida_K1	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K1
Saida_K2	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K2
Status_K1_K2	FALSE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Status_K1_K2



- Após o comando de reset, a variável “Alimentacao\_Segmento\_Interbus” foi para **TRUE**;
- A variável “Status\_K1\_K2” também foi para **TRUE** e o “Request\_Reset” foi para **FALSE**;
- Somente nesta condição que finalmente os contatores de potência foram energizados;

The image shows a screenshot of a PLC software interface. The top part displays a ladder logic diagram with a single red line representing a normally open contact. The contact is labeled "Liga\_Motor" with a "1" below it. This contact is connected to a junction point (black dot) which then branches into two parallel outputs, both labeled "Saida\_K1" and "Saida\_K2" with "1" below each. The bottom part of the screenshot shows a table titled "Code:Main" with the following data:

Variable	Value	Type	Instance
Sensor_Safety_1	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_1
Sensor_Safety_2	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Sensor_Safety_2
Alimentacao_Segment_Interbus	TRUE	BOOL	STD_CNF.STD_RES.Global_Variables.Alimentacao_Segment_Interbus
Request_Reset	FALSE	BOOL	STD_CNF.STD_RES.Global_Variables.Request_Reset
Saida_K1	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K1
Saida_K2	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Saida_K2
Status_K1_K2	TRUE	BOOL	STD_CNF.STD_RES.STD_TSK.Main.Status_K1_K2

# Pronto!!!

Agora é possível integrar o processo e segurança de uma forma fácil e comercialmente competitiva...



***INSPIRING INNOVATIONS***

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