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CONTACTRON modules

CONTACTRON modules detect and signal an under-range in the current measuring range

Application note
105461_en_00

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1 When the message appears

The message appears in the following cases, when there is a pending control signal:

- The motor current is below the lowest possible current setting
- The two-phase current is below the minimum possible current setting
- No motor connected
- No mains voltage due to missing or triggered mains fuse

Current product version			LED error message	Feedback relay	Power path switch-off
L1	L2	L3			
$I_N \geq I_{min}$	$I_N \geq I_{min}$	$I_N \geq I_{min}$	-	-	-
$I_N < I_{min}$	$I_N < I_{min}$	$I_N < I_{min}$	-	-	-
$I_N < I_{min}$	$I_N < I_{min}$	$I_N \geq I_{min}$	-	-	-
$I_N < I_{min}$	$I_N \geq I_{min}$	$I_N < I_{min}$	-	-	-
$I_N \geq I_{min}$	$I_N < I_{min}$	$I_N < I_{min}$	-	-	-
$I_N \geq I_{min}$	$I_N \geq I_{min}$	$I_N < I_{min}$	x	x	x
$I_N < I_{min}$	$I_N \geq I_{min}$	$I_N \geq I_{min}$	x	x	x
$I_N \geq I_{min}$	$I_N < I_{min}$	$I_N \geq I_{min}$	x	x	x

New product version (see section 7)			LED error message	Feedback relay	Power path switch-off
L1	L2	L3			
$I_N \geq I_{min}$	$I_N \geq I_{min}$	$I_N \geq I_{min}$	-	-	-
$I_N < I_{min}$	$I_N < I_{min}$	$I_N < I_{min}$	x	x	-
$I_N < I_{min}$	$I_N < I_{min}$	$I_N \geq I_{min}$	x	x	-
$I_N < I_{min}$	$I_N \geq I_{min}$	$I_N < I_{min}$	x	x	-
$I_N \geq I_{min}$	$I_N < I_{min}$	$I_N < I_{min}$	x	x	-
$I_N \geq I_{min}$	$I_N \geq I_{min}$	$I_N < I_{min}$	x	x	x
$I_N < I_{min}$	$I_N \geq I_{min}$	$I_N \geq I_{min}$	x	x	x
$I_N \geq I_{min}$	$I_N < I_{min}$	$I_N \geq I_{min}$	x	x	x

I_N = motor current, I_{min} = minimum current that can be set for motor protection

2 What does this message mean for the application?

The measuring system is not active, no motor protection is in place, safe switch-off is not guaranteed.

3 Advantages

If no message occurs during control, the motor is running.

Make sure you always use the latest documentation.
It can be downloaded at www.phoenixcontact.net/products

This document is valid for all products listed on the following page:

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4 Specified current ranges

It is important to take note of the following current ranges for the different CONTACTRON modules with regard to the nominal motor current:

– 0.6 A modules: 0.075 A … 0.6 A
– 2.4 A modules: 0.18 A … 2.4 A
– 9.0 A modules: 1.5 A … 9.0 A

5 Summary

The nominal motor current must correspond to the current range of the selected module in order to ensure optimum functionality.

6 Error table

Status	Description	PWR	ERR	L^2/I_{adj}	R^2/ON	Acknowledgment
Message (power path remains connected through)	Message with pending control signal: 2 or more phases are missing No motor connected Motor current in at least 2 phases > 2 s below the minimum current value that can be set					
	Error occurred during reverse running.	B	B	E	A	Automatic 1/2
	Error occurred during forward running.	B	B	A	E	Automatic 1
Explanation: A = LED switched off/E = LED permanently lit/B = LED flashes, approx. 2 Hz (50:50)						

1 No further action required

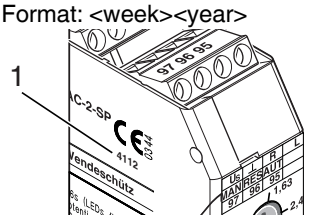
2 Only for ELR H5-... Devices

7 Product versions from which the function is implemented

Order No.	Designation	New product version	Inventory control since[1]
2900414	ELR H5-IES-SC- 24DC/500AC-2	5	KW31/12
2900420	ELR H5-IES-SC-230AC/500AC-2	4	KW39/12
2900421	ELR H5-IES-SC- 24DC/500AC-9	4	KW30/12
2900422	ELR H5-IES-SC-230AC/500AC-9	3	KW42/12
2900542	ELR H3-I-SC- 24DC/500AC-0,6	4	KW38/12
2900543	ELR H3-I-SC- 24DC/500AC-2	6	KW40/12
2900544	ELR H3-I-SC-230AC/500AC-2	5	KW37/12
2900545	ELR H3-I-SC- 24DC/500AC-9	5	KW39/12
2900546	ELR H3-I-SC-230AC/500AC-9	4	-
2900550	ELR H3-ES-SC- 24DC/500AC-0,6	4	-
2900552	ELR H3-ES-SC- 24DC/500AC-2	5	KW45/12
2900553	ELR H3-ES-SC-230AC/500AC-2	4	KW39/12
2900554	ELR H3-ES-SC- 24DC/500AC-9	4	KW34/12
2900555	ELR H3-ES-SC-230AC/500AC-9	3	-
2900558	ELR H5-ES-SC- 24DC/500AC-0,6	4	-
2900559	ELR H5-ES-SC- 24DC/500AC-2	5	KW41/12
2900560	ELR H5-ES-SC-230AC/500AC-2	4	-
2900561	ELR H5-ES-SC- 24DC/500AC-9	4	KW25/12
2900562	ELR H5-ES-SC-230AC/500AC-9	3	KW34/12
2900566	ELR H3-IES-SC- 24DC/500AC-0.6	4	KW33/12
2900567	ELR H3-IES-SC- 24DC/500AC-2	5	KW34/12
2900568	ELR H3-IES-SC-230AC/500AC-2	4	-
2900569	ELR H3-IES-SC- 24DC/500AC-9	4	KW31/12
2900570	ELR H3-IES-SC-230AC/500AC-9	4	KW44/12
2900573	ELR H5-I-SC- 24DC/500AC-0,6	4	KW41/12
2900574	ELR H5-I-SC- 24DC/500AC-2	6	KW38/12
2900575	ELR H5-I-SC-230AC/500AC-2	5	KW40/12
2900576	ELR H5-I-SC- 24DC/500AC-9	5	KW39/12
2900578	ELR H5-I-SC-230AC/500AC-9	4	-
2900582	ELR H5-IES-SC- 24DC/500AC-0.6	4	KW32/12
2900685	ELR H3-I-SC-230AC/500AC-0.6	3	KW34/12
2900686	ELR H3-ES-SC-230AC/500AC-0,6	3	-
2900688	ELR H5-ES-SC-230AC/500AC-0,6	3	-
2900689	ELR H3-IES-SC-230 AC/500 AC-0.6	3	-
2900691	ELR H5-I-SC-230 AC/500 AC-0.6	3	-

1 See date code

Location of the date code (1) on the module
Format: <week><year>



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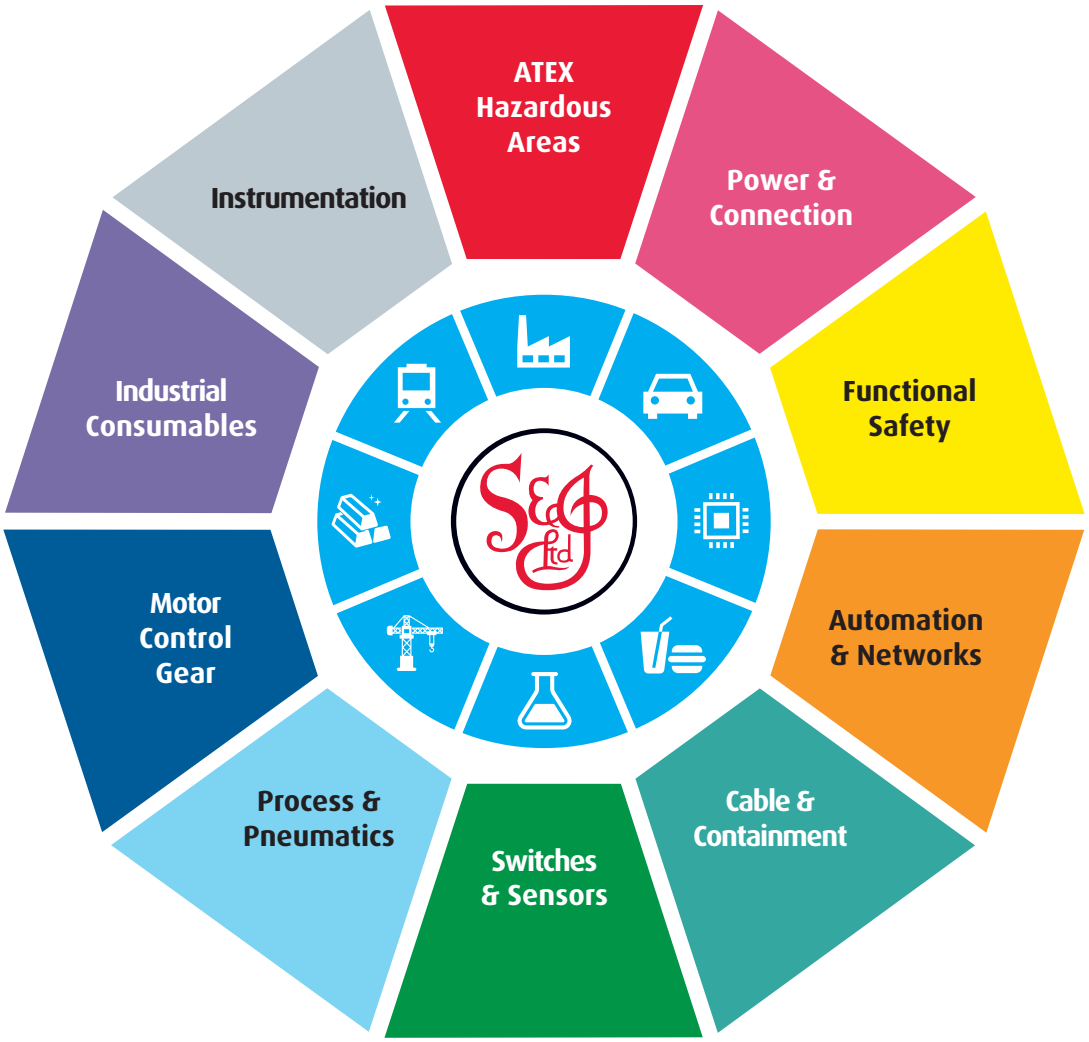

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