

Certificate of conformity of the central network and system protection

	No: 2013 - 0058
Manufacturer:	ComAp a.s.
Type of central NS protection	MainsPro
Firmware version	1.4
Network connection rule	VDE-AR-N 4105 “Power generation systems at the low-voltage network”
The network and system protection above meets the requirements of VDE-AR-N 4105	

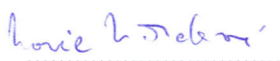
Date of release	18 th March 2013
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Protection function	Set value	Measured value (avg. from 10 measurements)	Tripping time (avg. from 10 measurements)
Undervoltage $U <$	$0,8 * U_n$	184 V	41.6 ms
1 st stage Overvoltage $U >$	$1,1 * U_n$	253 V	35.2 ms
2 nd stage Overvoltage $U >>$	$1,15 * U_n$	264.5 V	40.1 ms
Underfrequency $f <$	47,5 Hz	47.47 Hz	3.7 ms
Overfrequency $f >$	51,5 Hz	51.51 Hz	4.9 ms

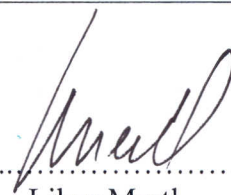
All circuit breaker trips were issued successfully at each attempt.

Voltage nominal value: $U_n = 230\text{ V}$

MainsPro meets the requirements for single-fault tolerance as per Annex A6.



Marie Mickalova
Director of the Protection Relays Division



Libor Mertl
Managing Director