

Date: 30. 07. 2012

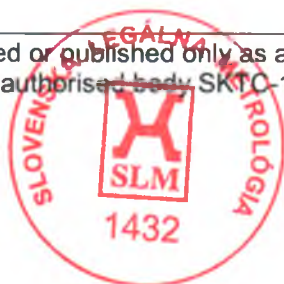
Number of pages: 5

FINAL PROTOCOL

No. 034/1432/12 MI-003

Product	active electrical energy meter
Type	C8...
Manufacturer	Fabryka Aparatury Pomiarowej PAFAL Spółka Akcyjna ul. Łukasińskiego 26 58-100 Świdnica, Poland
Applicant	Fabryka Aparatury Pomiarowej PAFAL Spółka Akcyjna ul. Łukasińskiego 26 58-100 Świdnica, Poland
Application No.	2012/MI-003/B040
Assignment No.	2012/MI-003/B040
Certification scheme:	1b
Distribution list:	SKTC – 177 (NB 1432) Applicant

Final Protocol may be reproduced or published only as a whole and upon written permission of the authorised body SKTC-177 (NB 1432).



1 General provision

This Final Protocol shall serve as an evidence for the authorized body SKTC-177 (notified body 1432), Hviezdoslavova 31, 974 01 Banská Bystrica, authorizing it to issue Decision on certification and Addition 1 to the EC-type examination certificate in accordance with § 11, Art. 10 of Act No. 264/1999 Coll. on technical requirements on products and on conformity assessment and on amendments and supplements of some acts as later amended, in compliance with the Government Ordinance of the Slovak Republic No. 294/2005 Coll. on measuring instruments (hereinafter referred to as „Government Ordinance“) for product type:

active electrical energy meter C8...

2 Amendments and modifications of Final Protocols N° 008/1432/12 MI-003.

Point 2.3.1 “Technical documentation”

Documentation is completed by the following documents:

- “833.825.000.010” - technical drawing issued by PAFAL of 03.07.2012.



Annex 1 - two new figures (Fig. 9, 10) are added:

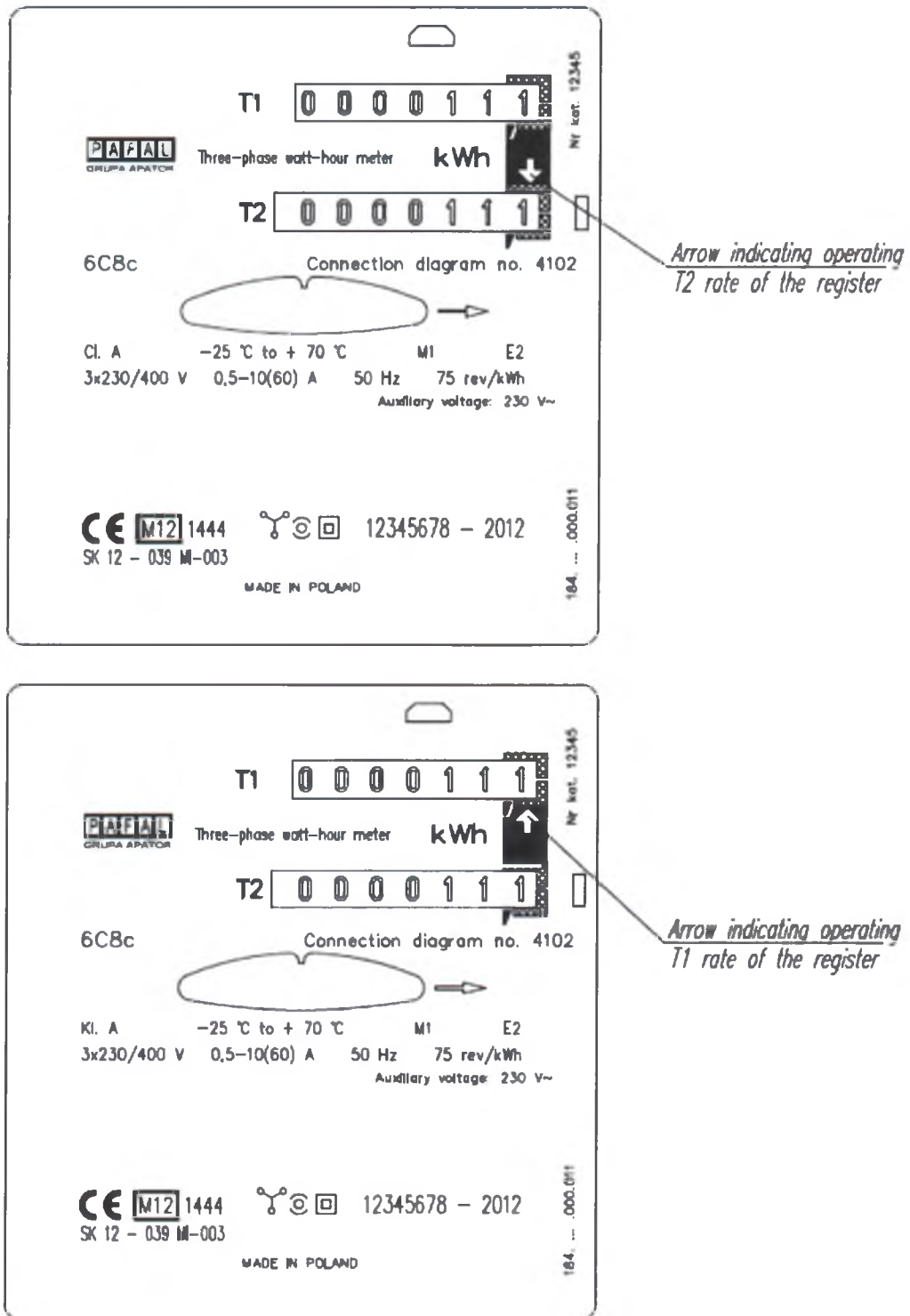


Fig. 9: Operation of double-rate register of C8... meter



Value of current	Load of current circuits	Power factor	Minimum number of revolutions
I_{min}	Balanced	1	2
I_{tr}	Balanced	0,5 ind; 1; 0,8 cap	3
$5 I_{tr}$	Single phase	1; 0,5 ind	3
$10 I_{tr}$	Balanced	0,5 ind; 1; 0,8 cap	5
$10 I_{tr}$	Single phase	1; 0,5 ind	3
I_{max}	Balanced	0,5 ind; 1; 0,8 cap	10
I_{max}	Single phase	1, 0,5 ind	5

Fig. 10: Minimum number of revolutions of the rotor of C8... meter for testing the repeatability according to 8.2 of EN 50470-2:2006

Annex 2 three new tables - additional percentage errors due to the variation of the *temperature, voltage and frequency* at certain load - are added.

$\delta (T, I, \cos\varphi)$

		Ambient Temperature Range					
Current	PF $\cos\varphi$	55 to 70 °C	40 to 55 °C	30 to 40 °C	5 to 30 °C	-10 to 5 °C	-25 to -10 °C
I_{min}	1	-1,08	-0,37	-0,21	0,85	-1,56	-1,47
I_{tr}	1	-0,17	0,12	0,05	-1,23	-1,76	-2,04
$10 I_{tr}$	1	0,89	0,54	0,26	-0,42	-0,65	-2,57
I_{max}	1	1,41	0,56	0,49	-0,7	-1,16	-2,67
I_{tr}	0,5 ind	-3,93	-2,42	-1,47	-2,69	0,74	1,31
$10 I_{tr}$	0,5 ind	-1,99	-1,19	-0,59	0,64	1,05	0,69
I_{max}	0,5 ind	-1,51	-1,22	-0,49	0,53	0,64	0,51
I_{tr}	0,8 cap	0,75	0,88	0,39	1,68	-2,83	-3,35
$10 I_{tr}$	0,8 cap	2,08	1,25	0,64	-0,86	-1,34	-3,93
I_{max}	0,8 cap	2,78	1,35	0,9	-1,21	-2,89	-4,02

$\delta (U, I, \cos\varphi)$

Current	PF $\cos\varphi$	δ
I_{min}	1	-0,71
I_{tr}	1	-0,44
$10 I_{tr}$	1	-0,15
I_{max}	1	0,47
I_{tr}	0,5 ind	0,18
$10 I_{tr}$	0,5 ind	0,74
I_{max}	0,5 ind	0,77
I_{tr}	0,8 cap	-0,88
$10 I_{tr}$	0,8 cap	-0,48
I_{max}	0,8 cap	-0,41

$\delta (f, I, \cos\varphi)$

Current	PF $\cos\varphi$	δ
I_{min}	1	0,31
I_{tr}	1	0,27
$10 I_{tr}$	1	0,24
I_{max}	1	0,2
I_{tr}	0,5 ind	-0,92
$10 I_{tr}$	0,5 ind	0,12
I_{max}	0,5 ind	-0,57
I_{tr}	0,8 cap	0,61
$10 I_{tr}$	0,8 cap	0,27
I_{max}	0,8 cap	0,3



Assessed by: Mgr. Eduard Gombala
Senior Officer of PCB



Eduard Gombala