



**SGS**

EC Type Examination Certificate Number: **0120/SGS0216**

**F&F Filipowski sp.j.**

Ul. Konstytucyjna 79/81  
Pabianice  
Poland

Instrument Identification:  
**LE-03MQ-QT**

Instrument Traceable Number  
**0120/SGS0216**

Poly Phase, Active Import/ Export , Indoor, Multi-Function, Transformer Operated, Electricity Meter

has been assessed and certified as meeting the requirements of

**EC Directive 2004/22/EC**

**Measuring Instruments Annex B**

It is certified that the manufacturer's technical design and specimen for the above instrument has been examined and, based on the evidence submitted, it is considered that the instrument conforms to the requirements of MI-003 of EC Directive 2004/22/EC

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex D or Annex F

This certificate is valid from 17<sup>th</sup> December 2015 to 9<sup>th</sup> March 2024  
Issue 1

Certification is based on report number(s) EMA174647/1/MID dated 30<sup>th</sup> January 2014  
EMA217865 dated 17<sup>th</sup> December 2015

Authorised Signature

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**0120/ SGS0216**

Issue Number: 1

Dated: 17<sup>th</sup> December 2015**1. Technical Data**

<b>Manufacturer</b>	F&F Filipowski sp.j.
<b>Meter Type</b>	LE-03MQ-CT
<b>Voltage Rating (<math>U_n</math>)</b>	3x230/400V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	0.25-5(6)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	A or B ( $kWh$ )
<b>Type of circuit</b>	3p4w, 3p3w, 1p2w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software Version No.</b>	V1.3
<b>Identification Location</b>	Nameplate
<b>Bill Of Materials No.'s</b>	20151210LE-03MQ-CT
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	3200imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	2 clips one of which is ultrasonic sealed
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD

**SGS**

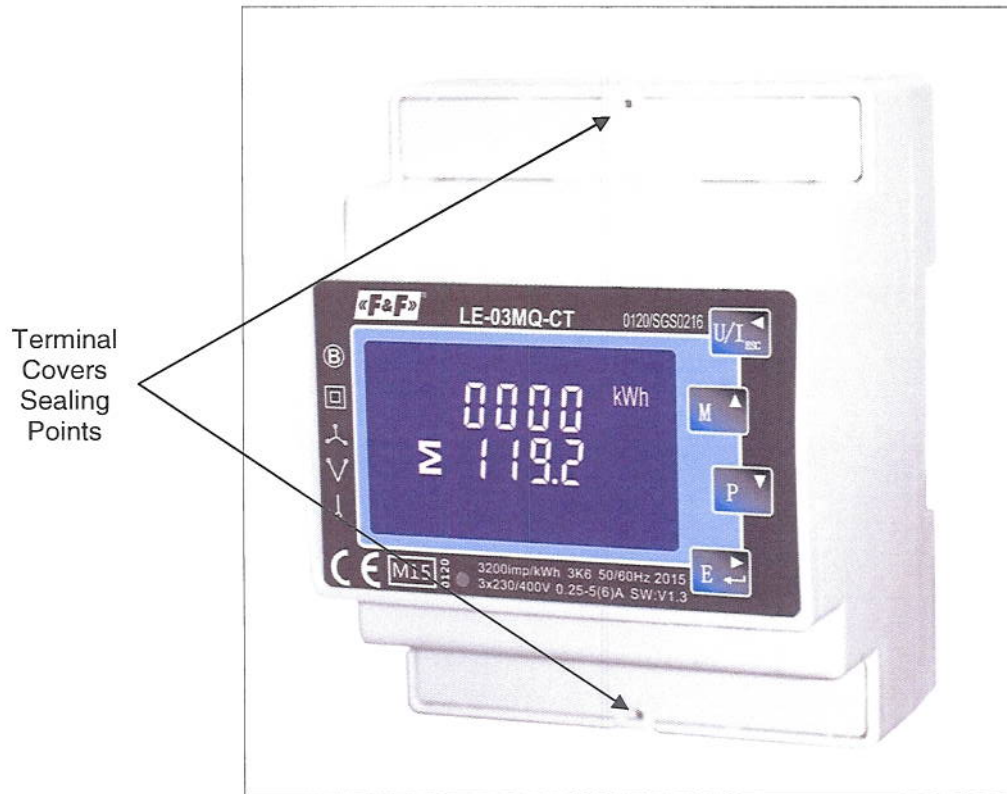
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**2. Photograph of Meter**





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**3. Influence factors for temperature, frequency and voltage**

Influence Factors for Temperature, Frequency & Voltage							
Current	PF Cos	-25	-10	5	30	40	55
I <sub>min</sub>	1.0	<b>0.39</b>	<b>0.30</b>	<b>0.71</b>	<b>0.16</b>	<b>0.25</b>	<b>0.39</b>
I <sub>tr</sub>	1.0	<b>0.33</b>	<b>0.27</b>	<b>0.28</b>	<b>0.18</b>	<b>0.25</b>	<b>0.47</b>
10I <sub>tr</sub>	1.0	<b>0.35</b>	<b>0.31</b>	<b>0.24</b>	<b>0.22</b>	<b>0.29</b>	<b>0.49</b>
I <sub>max</sub>	1.0	<b>0.36</b>	<b>0.31</b>	<b>0.25</b>	<b>0.21</b>	<b>0.28</b>	<b>0.47</b>
I <sub>tr</sub>	0.5ind	<b>0.26</b>	<b>0.25</b>	<b>0.36</b>	<b>0.16</b>	<b>0.23</b>	<b>0.44</b>
10I <sub>tr</sub>	0.5ind	<b>0.38</b>	<b>0.34</b>	<b>0.29</b>	<b>0.27</b>	<b>0.34</b>	<b>0.52</b>
I <sub>max</sub>	0.5ind	<b>0.42</b>	<b>0.38</b>	<b>0.32</b>	<b>0.30</b>	<b>0.36</b>	<b>0.52</b>
I <sub>tr</sub>	0.8cap	<b>0.31</b>	<b>0.42</b>	<b>0.43</b>	<b>0.32</b>	<b>0.37</b>	<b>0.50</b>
10I <sub>tr</sub>	0.8cap	<b>0.32</b>	<b>0.27</b>	<b>0.21</b>	<b>0.17</b>	<b>0.26</b>	<b>0.45</b>
I <sub>max</sub>	0.8cap	<b>0.34</b>	<b>0.28</b>	<b>0.21</b>	<b>0.15</b>	<b>0.24</b>	<b>0.43</b>
L1							
I <sub>tr</sub>	1.0	<b>0.37</b>	<b>0.39</b>	<b>0.44</b>	<b>0.14</b>	<b>0.28</b>	<b>0.35</b>
10I <sub>tr</sub>	1.0	<b>0.34</b>	<b>0.30</b>	<b>0.24</b>	<b>0.20</b>	<b>0.27</b>	<b>0.47</b>
I <sub>max</sub>	1.0	<b>0.33</b>	<b>0.30</b>	<b>0.23</b>	<b>0.21</b>	<b>0.28</b>	<b>0.47</b>
I <sub>tr</sub>	0.5ind	<b>0.41</b>	<b>0.56</b>	<b>0.96</b>	<b>0.14</b>	<b>0.15</b>	<b>0.16</b>
10I <sub>tr</sub>	0.5ind	<b>0.49</b>	<b>0.46</b>	<b>0.42</b>	<b>0.38</b>	<b>0.43</b>	<b>0.62</b>
I <sub>max</sub>	0.5ind	<b>0.49</b>	<b>0.46</b>	<b>0.42</b>	<b>0.39</b>	<b>0.44</b>	<b>0.60</b>
L2							
I <sub>tr</sub>	1.0	<b>0.25</b>	<b>0.20</b>	<b>0.12</b>	<b>0.18</b>	<b>0.31</b>	<b>0.51</b>
10I <sub>tr</sub>	1.0	<b>0.38</b>	<b>0.32</b>	<b>0.23</b>	<b>0.19</b>	<b>0.28</b>	<b>0.45</b>
I <sub>max</sub>	1.0	<b>0.38</b>	<b>0.32</b>	<b>0.23</b>	<b>0.21</b>	<b>0.28</b>	<b>0.47</b>
I <sub>tr</sub>	0.5ind	<b>0.12</b>	<b>0.12</b>	<b>0.13</b>	<b>0.25</b>	<b>0.38</b>	<b>0.59</b>
10I <sub>tr</sub>	0.5ind	<b>0.36</b>	<b>0.33</b>	<b>0.25</b>	<b>0.25</b>	<b>0.32</b>	<b>0.49</b>
I <sub>max</sub>	0.5ind	<b>0.39</b>	<b>0.35</b>	<b>0.28</b>	<b>0.27</b>	<b>0.34</b>	<b>0.49</b>
L3							
I <sub>tr</sub>	1.0	<b>0.32</b>	<b>0.27</b>	<b>0.21</b>	<b>0.19</b>	<b>0.27</b>	<b>0.46</b>
10I <sub>tr</sub>	1.0	<b>0.32</b>	<b>0.28</b>	<b>0.22</b>	<b>0.21</b>	<b>0.30</b>	<b>0.50</b>
I <sub>max</sub>	1.0	<b>0.33</b>	<b>0.30</b>	<b>0.23</b>	<b>0.22</b>	<b>0.30</b>	<b>0.50</b>
I <sub>tr</sub>	0.5ind	<b>0.32</b>	<b>0.32</b>	<b>0.24</b>	<b>0.20</b>	<b>0.29</b>	<b>0.53</b>
10I <sub>tr</sub>	0.5ind	<b>0.34</b>	<b>0.29</b>	<b>0.23</b>	<b>0.23</b>	<b>0.33</b>	<b>0.54</b>
I <sub>max</sub>	0.5ind	<b>0.35</b>	<b>0.31</b>	<b>0.25</b>	<b>0.13</b>	<b>0.33</b>	<b>0.53</b>


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During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table above represents the sum of the square values per load, determined via the following formula:-

$$\delta e (T, U, f) = \sqrt{(\delta e^2 (T, I, \cos\phi) + \delta e^2 (U, I, \cos\phi) + \delta e^2 (f, I, \cos\phi))}$$

where

- $\delta e(T, I, \cos\phi) =$  Additional error due to variation of the temperature at the same load
- $\delta e(U, I, \cos\phi) =$  Additional error due to variation of the voltage at the same load
- $\delta e(f, I, \cos\phi) =$  Additional error due to variation of the frequency at the same load

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#### 4. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
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LE-03MQ-CT	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated Electricity Meter
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Modifications to the meter(s) described according to approval No. **0120/ SGS0216** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

#### 5. Document Revision History

Issue	Date	Comments
1	17/12/2015	Initial Issue