**Water Meters**

**Image of Kimmon Smart Metering System**

Kimmon Smart Metering System (KSMS) offers to manage gas, water, oil and caloric demand and accurate billing through Ethernet. KSMS enables to realize high efficiency operation by collecting several data so that reduction of environmental burdens with cost can be achieved.

**Example of Indication**

(BK) A1
(WT) A2
(RD) P (ʴ)
(GN) PG (ʵ)

8 bit telegraphic output
Pulse output

**Electronic Meter**

- 8 bit telegraphic is used for wired or wireless network system.
- Standard pulse is no unit output based on actual rotation of wheel. When order, pulse rate is selectable from 4 kind of output.

**Pulse Output Specification**

<table>
<thead>
<tr>
<th>CRU Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
</tr>
<tr>
<td>Scheduled Reading</td>
</tr>
<tr>
<td>Random Reading</td>
</tr>
<tr>
<td>Monitoring Function</td>
</tr>
<tr>
<td>Parallel Flow Rate</td>
</tr>
<tr>
<td>Battery Fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output cable configuration of Pulse / 8 bit multifunction electronic water meter</td>
</tr>
<tr>
<td>8 bit telegraphic output</td>
</tr>
<tr>
<td>Pulse output</td>
</tr>
</tbody>
</table>

**Configurations**

- Model No.: IPN25GC
- Connection: LAN/Wi-Fi
- Power Supply: AC100V
- Dimension: 300W x 300H x 140D

**Example of Indication**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Distance</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.00m³/h</td>
<td>12.00m³/h</td>
<td></td>
</tr>
</tbody>
</table>

**Alerts**

- Alarm Release
- Cumulative Flow
- Battery Failure
- Service Failure

**Model No.**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>IPN25GC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal No.</td>
<td>IPN25 GC</td>
</tr>
<tr>
<td>Device No.</td>
<td>IPN25 GC</td>
</tr>
<tr>
<td>Port</td>
<td>Ethernet</td>
</tr>
<tr>
<td>Port</td>
<td>8 bits</td>
</tr>
<tr>
<td>Power</td>
<td>12.00m³/h</td>
</tr>
</tbody>
</table>

**Note**

- Selection of pulse unit not relevant to indication on body and centralized reading panel.
- Width of pulse: Indeterminate
- Unit pulse: Approx. 0.5sec.

**Azbil Kimmon Co., Ltd.**
<table>
<thead>
<tr>
<th>Diameter</th>
<th>13mm</th>
<th>20mm</th>
<th>25mm</th>
<th>30mm</th>
<th>40mm</th>
<th>50mm</th>
<th>65mm</th>
<th>75mm</th>
<th>100mm</th>
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<tr>
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<td>Double Jet Wheel</td>
<td>Waltman</td>
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<tr>
<td>Connectin</td>
<td>NPT Screw</td>
<td>Flange JIS10K</td>
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<tr>
<td>Model No.</td>
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<td>GKDL</td>
<td>GKDA</td>
<td>GKDL</td>
<td>GKDA</td>
<td>GKDS</td>
<td>GFDT</td>
<td>GFDW</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EKDA</td>
<td>EKDL</td>
<td>EKDA</td>
<td>EKDL</td>
<td>EKDA</td>
<td>EKDS</td>
<td>EFDT</td>
<td>EFDW</td>
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</tr>
<tr>
<td></td>
<td>NKDA</td>
<td>NKDL</td>
<td>NKDA</td>
<td>NKDL</td>
<td>NKDA</td>
<td>NKDS</td>
<td>NFDT</td>
<td>NFDW</td>
<td></td>
</tr>
<tr>
<td>Pulse Signal</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic</td>
<td><img src="image4" alt="Image" /></td>
<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
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<td></td>
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</tr>
<tr>
<td>Direct Reading</td>
<td><img src="image7" alt="Image" /></td>
<td><img src="image8" alt="Image" /></td>
<td><img src="image9" alt="Image" /></td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Water Meter Lineup**

- **R = Q3/Q1 (Planned Ratio)**
  - 0.025
  - 0.04
  - 0.063
  - 0.1
  - 0.16
  - 0.16
  - 0.256
  - 0.64
  - 1
  - 1
  - 1.6

- **Q1 (Min. Flow Rate) (m³/h)**
  - 0.04
  - 0.064
  - 0.1008
  - 0.16
  - 0.16
  - 0.256
  - 0.64
  - 1
  - 1
  - 1.6

- **Q2 (Change Over Flow Rate) (m³/h)**
  - 2.5
  - 4
  - 6.3
  - 10
  - 10
  - 16
  - 40
  - 63
  - 63
  - 100

- **Q3 (Permanent Flow) (m³/h)**
  - 3.125
  - 5
  - 7.875
  - 12.5
  - 12.5
  - 20
  - 50
  - 78.75
  - 78.75
  - 125

- **Q4 (Max. Flow Rate) (m³/h)**
  - Allowable Max. Working Pressure (MPa)
  - 1
  - Allowable Max. Working Temperature (°C)
  - 30

- **Min. Scale (L)**
  - 1

- **Max. Total Flow (m³)**
  - 9999.9

- **Min. Scale (L)**
  - 0.1

- **Max. Total Flow (m³)**
  - 99999999

- **Body Material**
  - Lead Free Copper Alloy CAC804 w/o Coating
  - Ductile Cast Iron w/Powder Coating

- **Indicator**
  - Mechanical
  - LCD

- **Standard**
  - JIS B 8570-2 (Compliance with OIML/Relevant ISO)

- **Period of Re-Calibration by Law**
  - 8 Years

- **Design Duration of Life Time = (x3) x 1.5**
  - 12 years
Battery Operated Electromagnetic Flow

**Specification**

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>50</th>
<th>65</th>
<th>75</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
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</thead>
<tbody>
<tr>
<td>R=Q3/Q1 Ratio</td>
<td>200</td>
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<tr>
<td>Q1 Minimum Flow Rate (m³/h)</td>
<td>0.315</td>
<td>0.5</td>
<td>0.5</td>
<td>0.8</td>
<td>1.25</td>
<td>2</td>
<td>3.15</td>
</tr>
<tr>
<td>Q2 Change-over Flow Rate (m³/h)</td>
<td>0.504</td>
<td>0.8</td>
<td>0.8</td>
<td>1.28</td>
<td>2</td>
<td>3.2</td>
<td>5.04</td>
</tr>
<tr>
<td>Q3 Maximum Flow Rate (m³/h)</td>
<td>63</td>
<td>100</td>
<td>100</td>
<td>160</td>
<td>250</td>
<td>400</td>
<td>630</td>
</tr>
<tr>
<td>Q4 Limit Flow Rate (m³/h)</td>
<td>78.75</td>
<td>125</td>
<td>125</td>
<td>200</td>
<td>312.5</td>
<td>500</td>
<td>787.5</td>
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<tr>
<td>Min. Scale</td>
<td>1</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Max. Total Flow (m³)</td>
<td>999,999.999</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Instantaneous Flow Rate (m³/h)</td>
<td>9999</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Certified Model No.**

L101 (50~125mm)
L102 (150mm)
L1123 (200mm)

**Use**

Transaction for water flow measurement

**Design**

All-in-one component

**Measurement Principle**

Battery operated electromagnetic detection

**Protection Class**

IP68

**Permissible Error**

Q1 Less than Q2 by 5%
Over Q2 Less than Q4 by 5%
As per JIS B8875-2

**Operating Condition**

Pressure 0.3~1MPa
Field Temperature 0~35°C
Field Electromagnetic 50~1000µS/cm
Ambient Temperature 5~50°C
Ambient Humidity 0~100RH at 40°C Ambient Temperature

**Pulse Output**

Model Dimension

<table>
<thead>
<tr>
<th>Dia (mm)</th>
<th>Model</th>
<th>(L1) mm</th>
<th>(L2) mm</th>
<th>(L3) mm</th>
<th>(t) mm</th>
<th>(H1) mm</th>
<th>(H2) mm</th>
<th>(W) mm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>20mm</td>
<td>GFDW</td>
<td>575</td>
<td>270</td>
<td>302</td>
<td>3</td>
<td>267</td>
<td>100</td>
<td>211</td>
<td>29</td>
</tr>
<tr>
<td>40mm</td>
<td>GFDW</td>
<td>630</td>
<td>300</td>
<td>327</td>
<td>3</td>
<td>267</td>
<td>100</td>
<td>211</td>
<td>29</td>
</tr>
<tr>
<td>100mm</td>
<td>GFDW</td>
<td>750</td>
<td>350</td>
<td>397</td>
<td>3</td>
<td>309</td>
<td>120</td>
<td>238</td>
<td>41</td>
</tr>
</tbody>
</table>

**Table**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>(L1) mm</th>
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<th>(H2) mm</th>
<th>(W) mm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>MGB12A</td>
<td>120</td>
<td>96</td>
<td>44.8</td>
<td>194.5</td>
<td>242</td>
<td>1</td>
<td>3</td>
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<tr>
<td>65</td>
<td>MGB12A</td>
<td>140</td>
<td>115</td>
<td>59.5</td>
<td>204.0</td>
<td>242</td>
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<tr>
<td>75</td>
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<td>160</td>
<td>128</td>
<td>70.3</td>
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<td>275</td>
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<td>4.5</td>
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<td>100</td>
<td>MGB12A</td>
<td>180</td>
<td>150</td>
<td>83.1</td>
<td>226.5</td>
<td>302</td>
<td>1</td>
<td>6.3</td>
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<tr>
<td>125</td>
<td>MGB12A</td>
<td>200</td>
<td>180</td>
<td>108.3</td>
<td>241.5</td>
<td>331</td>
<td>1</td>
<td>8.3</td>
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<tr>
<td>150</td>
<td>MGB12A</td>
<td>229</td>
<td>210</td>
<td>138.8</td>
<td>266.5</td>
<td>372</td>
<td>1</td>
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<tr>
<td>200</td>
<td>MGB12A</td>
<td>300</td>
<td>265</td>
<td>189</td>
<td>293.0</td>
<td>426</td>
<td>1</td>
<td>25.8</td>
</tr>
</tbody>
</table>

**MGB12A Model Dimension**

<table>
<thead>
<tr>
<th>Dia (mm)</th>
<th>Model</th>
<th>(D1) mm</th>
<th>(D2) mm</th>
<th>(H1) mm</th>
<th>(H2) mm</th>
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<th>Weight Kg</th>
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<td>115</td>
<td>59.5</td>
<td>204.0</td>
<td>242</td>
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<td>MGB12A</td>
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<td>128</td>
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<tr>
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<td>180</td>
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<td>108.3</td>
<td>241.5</td>
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<td>1</td>
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<td>150</td>
<td>MGB12A</td>
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<td>138.8</td>
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<tr>
<td>200</td>
<td>MGB12A</td>
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<td>265</td>
<td>189</td>
<td>293.0</td>
<td>426</td>
<td>1</td>
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</tbody>
</table>

**Model Selection**

**Addition**

Documentation Test Report T

Traceability Certificate & Test Report Y
Azbil Kimmon Co., Ltd.
1-14-3 Kita-Otsuka, Toshima-ku, Tokyo 170-0004, Japan
Global Business Division
Direct Phone: +81-3-5980-3735 Fax: +81-3-5980-3754

Company Profile

Initiation Y 1904 as Kimmon Trading Co., Ltd.
Establishment Y 1948 as Kimmon Manufacturing Co., Ltd.
Headquarter 1-14-3 Kita-Otsuka, Toshima-ku, Tokyo 170-0004, Japan
Headquarter: Otsuka Asami Building
Regional Branch Sapporo, Sendai, Tokio, Shizuoka, Osaka, Hiroshima, Fukuoka
Sales Branch Kushiro, Morioka, Aomori, Fukushima, Akita, Niigata, Nagano, Chiba, Atsugi, Nagoya, Kanazawa, Okoayama, Takamatsu, Kagoshima, Okinawa
R & D Center Kawagoe
Calibration & Certification Agency (Gas) Fukuoka, Fukushima, Karatsu
Calibration & Certification Agency (Water) Aomori (in Aomori Factory as subsidiary)
Manufacturing Hub Aomori, Fukushima, Wakayama, Karatsu
Capital 315,750,000 JPY (Approx. 4 M-US$ at 80JPY = 1 US$)
Permanent Employee Approx. 440
Product Lineup City Gas Meter, LPG Meter, Water Meter, Oil Meter, Cumulative Calorimeter, Flow Meter, Instruments, Gas Regulator, Household Gas Detector, Water Leakage Detector
Average Sales Approx. 25.3 B-JPY (Approx. 32 M-US$)

Centralized Remote Reading Solution

High Efficiency
Less Human Error
Less Violation to Privacy
High Cost Effectiveness

Centralized Reading Panel
Panel Mounted Counter
Wireless Reading Handy Terminal
Wireless Reading Individual System
Individual Remote Counter

Specification
Electronic Meter Output
(Digital)
GN BK A1
WT A2
Spec.: 8 bits
(Pulse)
GN BK +
WT Spec.: Open Drain

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http://azbil.com
http://ak.azbil.com

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