Overview

Transmitter MAG 5000/6000 compact version (left) and 19” insert version (right)

The MAG 5000 and 6000 are transmitters engineered for high performance, easy installation, commissioning and maintenance. The transmitters evaluate the signals from the SITRANS F M sensors type MAG 1100, MAG 1100 F, MAG 3100, MAG 3100 P and MAG 5100 W.

Transmitter types:
- MAG 5000: Max. measuring error \( \pm 0.4 \% \pm 1 \text{ mm/s (incl. sensor)} \)
- MAG 6000: Max. measuring error \( \pm 0.2 \% \pm 1 \text{ mm/s (incl. sensor, see also sensor specifications)} \) and with additional features such as: "plug & play" add-on bus modules; integrated batch functions.

Benefits

- Superior signal resolution for optimum turn down ratio
- Digital signal processing with many possibilities
- Automatic reading of SENSORPROM data for easy commissioning
- User configurable operation menu with password protection.
- 3 lines, 20 characters display in 11 languages.
- Flow rate in various units
- Totalizer for forward, reverse and net flow as well as additional information available
- Multiple functional outputs for process control, minimum configuration with analogue, pulse/frequency and relay output (status, flow direction, limits)
- Comprehensive self-diagnostic for error indication and error logging (see under SITRANS F M diagnostics)
- Batch control (MAG 6000 only)
- Custody transfer approval: PTB, OIML R 117, OIML R 49, MI-001, PTB K 7.2 and OE12/C 040 for chilled water
- MAG 6000 with add-on bus modules for HART, FOUNDATION Fieldbus H1, DeviceNet, Modbus RTU/RS 485, PROFIBUS PA and DP

Application

The SITRANS F M flowmeters are suitable for measuring the flow of almost all electrically conductive liquids, pastes and slurries. The main applications can be found in:
- Water and waste water
- Chemical and pharmaceutical industries
- Food and beverage industries
- Power generation and utility

Design

The transmitter is designed as either IP67 NEMA 4X/6 enclosure for compact or wall mounting or 19” version as a 19” insert as a base to be used in:
- 19” rack systems
- Front panel mounting IP65/NEMA 2
- Panel mounting IP20/NEMA 1
- Wall mounting IP66/NEMA 4X

Several options on 19” versions are available such as:
- Transmitters mounted in safe area for Ex ATEX approved flow sensors (incl. barriers)
- Transmitters with electrode cleaning unit on request

Function

The MAG 5000/6000 are transmitters with a built-in alphanumeric display in several languages. The transmitters evaluate the signals from the associated electromagnetic sensors and also fulfill the task of a power supply unit which provides the magnet coils with a constant current.

Further information on connection, mode of operation and installation can be found in the data sheets for the sensors.

Displays and controls

Operation of the transmitter can be carried out using:
- Control and display unit
- HART communicator
- PC/laptop and SIMATIC PDM software via HART communication
- PC/laptop and SIMATIC PDM software using PROFIBUS or Modbus communication
## Technical specifications

### Mode of operation and design

- **Measuring principle**: Electromagnetic with pulsed constant field.
- **Empty pipe**: Detection of empty pipe (special cable required in remote mounted installation).
- **Excitation frequency**: Depend on sensor size.
- **Electrode input impedance**: $>1 \times 10^{14}$ Ω.
- **Input**
  - **Digital input**
    - Activation time: 50 ms.
    - Current: $I_{11 \text{ V DC}} = 2.5 \text{ mA}$, $I_{30 \text{ V DC}} = 7 \text{ mA}$.
  - **Output**
    - **Current output**
      - **Signal range**: 0 ... 20 mA or 4 ... 20 mA.
      - **Load**: $<8 \Omega$.
      - **Time constant**: 0.1 ... 30 s, adjustable.
    - **Digital output**
      - **Frequency**: 0 ... 10 kHz, 50 % duty cycle (uni/bidirectional).
      - **Pulse (active)**
        - 3 ... 30 V DC, max. 110 mA, $200 \Omega \leq R_i \leq 10 \text{ KΩ}$ (powered from connected equipment).
      - **Time constant**: 0.1 ... 30 s, adjustable.
    - **Relay output**
      - **Time constant**: Changeover relay, same as current output.
      - **Load**: 42 V AC/2 A, 24 V DC/1 A.
- **Low flow cut off**: 0 ... 9.9 % of maximum flow.
- **Galvanic isolation**: All inputs and outputs are galvanically isolated.
- **Max. measuring error (incl. sensor and zero point)**:
  - **MAG 5000**: 0.4 % ±1 mm/s.
  - **MAG 6000**: 0.2 % ±1 mm/s.
- **Rated operation conditions**
  - **Ambient temperature**
    - **Operation**: Display version: -20 ... +60 °C (-4 ... +140 °F), Blind version: -20 ... +60 °C (-4 ... +140 °F), MI-001 version: -25 ... +55 °C (-13 ... +131 °F), Custody transfer (CT) version: -20 ... +50 °C (-4 ... +122 °F), Storage: -40 ... +70 °C (-40 ... +158 °F).
  - **Display version**: Two eight-digit counters for forwards, net or reverse flow.
- **Display and keypad**
  - **Totalizer**: Background illumination with alphanumeric text, 3 x 20 characters to indicate flow rate, totalized values, settings and faults; Reverse flow indicated by negative sign.
  - **Time constant**: Time constant as current output time constant.
- **Design**
  - **Enclosure material**: Fiber glass reinforced polyamide; stainless steel AISI 316/1.4436 (IP65).
  - **19” insert**: Standard 19” insert of aluminum/steel (DIN 41494), width: 1 ... 800 Hz, 1 g, sinusoidal in all directions to IEC 60068-2-36.
  - **Degree of protection**
    - **Compact version**: IP67/NEMA 4X/6 to IEC 529 and DIN 40050 (1 mH2O 30 min.).
    - **19” insert**: IP66/NEMA 4X; ABS plastic.
- **Dimensions**
  - **Compact version**: See dimensional drawings.
  - **19” insert**: See dimensional drawings.
- **Weight**
  - **Compact version**: 0.75 kg (2 lb).
  - **19” insert**: See dimensional drawings.
- **Power supply**
  - **Compact version**: 115 ... 230 V AC: 17 VA, 12 V DC: 11 W, 24 V DC: 8.4 VA.
  - **19” insert**: 230 V AC: 17 VA, 11 ... 30 V DC or 11 ... 24 V AC.
  - **Power consumption**
    - **Compact version**: 230 V AC: 17 VA, 12 V DC: 8 A (30 ms), 24 V DC: 8.4 VA, $I_{GT} = 4 \text{ A (10 ms)}$.
    - **19” insert**: 230 V AC: 17 VA, 11 ... 30 V DC or 11 ... 24 V AC.
- **Certificates and approvals**
  - **General purpose**: CE (LVD, EMC, PED, RoHS), UL (c-UL-us).
  - **Hazardous areas**: FM, CSA.
  - **Custody transfer**: Cold water: MI-001, Chilled water: PTB K 7.2 (Germany), - OE12/C 040 (Austria), - TS 27.02 008 (Denmark).
  - **Marine**
    - **Compact version**: ABS.
    - **19” insert**: Bureau Veritas, DNV, GL, Lloyd’s Register of Shipping.
  - **Others**: CMC/CPA (China), C-TICK (Australia and New Zealand EMC), EAC (Russia, Belarus, Kazakhstan), KCC (South Korea).
Communication

Standard
- MAG 5000
- MAG 6000

Optional (MAG 6000 only)
- HART, Modbus RTU/RS 485, FOUNDATION Fieldbus H1, DeviceNet, PROFIBUS PA, PROFIBUS DP as add-on modules

Without serial communication or HART as option
Prepared for client-mounted add-on modules

Optional (MAG 5000/6000 CT)
No communication modules approved

1) For detailed accuracy specifications, see page 3/20

Safety barrier (e/ia)

Application

<table>
<thead>
<tr>
<th>Ex approval</th>
<th>For use with MAG 5000/6000 19” and MAG 1100 Ex/MAG 3100 Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAG 1100 Ex</td>
<td>[EEx e ia] IIB ATEX, EAC Ex</td>
</tr>
<tr>
<td>MAG 3100 Ex</td>
<td>[EEx e ia] IIC ATEX, EAC Ex</td>
</tr>
</tbody>
</table>

Cable parameter

<table>
<thead>
<tr>
<th>Electrode</th>
<th>Group</th>
<th>Capacity in μF</th>
<th>Inductance in mH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrode</td>
<td>IIC</td>
<td>≤ 4.1</td>
<td>≤ 80</td>
</tr>
<tr>
<td>Electrode</td>
<td>IIB</td>
<td>≤ 45</td>
<td>≤ 87</td>
</tr>
<tr>
<td>Electrode</td>
<td>IIA</td>
<td>≤ 45</td>
<td>≤ 87</td>
</tr>
</tbody>
</table>

Ambient temperature

- During operation: -20 ... +50 °C (-4 ... +122 °F)
- During storage: -20 ... +70 °C (-4 ... +158 °F)

Enclosure

- Material: Standard 19” insert in aluminum/steel (DIN 41494)
- Width: 21 TE (4.75”)
- Height: 3 HE (5.25”)
- Rating: IP20 / NEMA 1 to EN 60529
- Mechanical load: 1 g, 1 ... 800 Hz sinusoidal in all directions to EN 60068-2-36
### Transmitter MAG 5000

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter MAG 5000 Blind for compact and wall mounting; IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6910-1AA30-0AA0, 7ME6910-1AA10-0AA0</td>
</tr>
<tr>
<td>Transmitter MAG 5000 Display for compact and wall mounting; IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6910-1AA30-1AA0, 7ME6910-1AA10-1AA0</td>
</tr>
<tr>
<td>Transmitter MAG 5000 CT for compact and wall mounting, approved for custody transfer, without verification (no approval marks - only a complete flowmeter can be verified, i.e. sensor together with the transmitter); IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6910-1AA30-1AD0, 7ME6910-1AA10-1AD0</td>
</tr>
<tr>
<td>Transmitter MAG 5000 for 19&quot; rack and wall mounting</td>
<td>7ME6910-2CA30-1AA0, 7ME6910-2CA10-1AA0</td>
</tr>
</tbody>
</table>

### Transmitter MAG 6000

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter MAG 6000 Blind for compact and wall mounting; IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6920-1AA30-0AA0, 7ME6920-1AA10-0AA0</td>
</tr>
<tr>
<td>Transmitter MAG 6000 for compact and wall mounting; IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6920-1AA30-1AA0, 7ME6920-1AA10-1AA0</td>
</tr>
<tr>
<td>Transmitter MAG 6000 for compact and wall mounting; IP65/NEMA 4, stainless steel AISI 316/1.4436 (only for sensor with stainless steal terminal box) (for remote version order stainless steal terminal box separately)</td>
<td>7ME6920-1QA30-1AA0, 7ME6920-1QA10-1AA0</td>
</tr>
<tr>
<td>Transmitter MAG 6000 CT for compact and wall mounting, approved for custody transfer, without verification (no approval marks - only a complete flowmeter can be verified, i.e. sensor together with the transmitter); IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6920-1AA30-1AD0, 7ME6920-1AA10-1AD0</td>
</tr>
<tr>
<td>Transmitter MAG 6000 SV for compact and wall mounting; special excitation frequency 44 Hz for Batch application DN ≤ 25/1&quot; IP67/NEMA 4X/6, fibre glass reinforced polyamide</td>
<td>7ME6920-1AB30-1AA0, 7ME6920-1AB10-1AA0</td>
</tr>
</tbody>
</table>
### Transmitter MAG 5000/6000

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter MAG 6000 for 19” rack and wall mounting</td>
<td>7ME6920-2CA30-1AA0</td>
</tr>
<tr>
<td>• 11 ... 30 V DC / 11 ... 24 V AC</td>
<td></td>
</tr>
<tr>
<td>• 115 ... 230 V AC, 50/60 Hz</td>
<td>7ME6920-2CA10-1AA0</td>
</tr>
<tr>
<td>Transmitter MAG 6000 SV for 19” rack and wall mounting; special excitation frequency 44 Hz for Batch application DN ≤ 25’’</td>
<td>7ME6920-2CB30-1AA0</td>
</tr>
<tr>
<td>• 11 ... 30 V DC / 11 ... 24 V AC</td>
<td></td>
</tr>
<tr>
<td>• 115 ... 230 V AC, 50/60 Hz</td>
<td>7ME6920-2CB10-1AA0</td>
</tr>
<tr>
<td>MAG 6000 19” insert, complete mounted with IP66/ NEMA 4X wall mounting enclosure in ABS plastic, 115 ... 230 V AC, 50/60 Hz; cable gland PG13.5</td>
<td>7ME6920-2EA10-1AA0</td>
</tr>
<tr>
<td>• For ATEX 2G D sensors</td>
<td>7ME6920-2MA11-1AA0</td>
</tr>
<tr>
<td>MAG 6000 19” insert with safety barrier for Ex-approved sensors, complete mounted with IP66/ NEMA 4X wall mounting enclosure in ABS plastic, 115 ... 230 V AC, 50/60 Hz; cable gland PG13.5</td>
<td>7ME6920-2EB30-1AA0</td>
</tr>
<tr>
<td>• 11 ... 30 V DC, 11 ... 24 V AC</td>
<td></td>
</tr>
<tr>
<td>• 115 ... 230 V AC, 50/60 Hz</td>
<td>7ME6920-2EB10-1AA0</td>
</tr>
</tbody>
</table>

### Operating instructions for SITRANS F add-on modules

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART</td>
<td>A5E03089708</td>
</tr>
<tr>
<td>• English</td>
<td>A5E00726137</td>
</tr>
<tr>
<td>• German</td>
<td>A5E01026429</td>
</tr>
<tr>
<td>PROFIBUS PA/DP</td>
<td>A5E00753974</td>
</tr>
<tr>
<td>• English</td>
<td>A5E03098262</td>
</tr>
<tr>
<td>• German</td>
<td>A5E02318728</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus</td>
<td>A5E02488856</td>
</tr>
<tr>
<td>• English</td>
<td>A5E03089720</td>
</tr>
</tbody>
</table>

### Accessories for MAG 5000 and MAG 6000

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessory kit for remote use of sensor with two 5-pin terminal blocks</td>
<td>A5E34827189</td>
</tr>
<tr>
<td>Wall mounting unit for MAG 5000/6000 IP67/NEMA 4X/6, terminal box in polyamide</td>
<td>FDK:085U1018</td>
</tr>
<tr>
<td>• 4 x M20 cable glands</td>
<td>FDK:085U1053</td>
</tr>
<tr>
<td>• 4 x ½” NPT cable glands</td>
<td>A5E36699702</td>
</tr>
<tr>
<td>Special wall mounting unit for MAG 5000/6000 IP67/NEMA 4X/6, mounting bracket in stainless steel AISI 316 (1.4401), terminal box in polyamide</td>
<td>A5E36699938</td>
</tr>
<tr>
<td>• 4 x M20 cable glands</td>
<td>A5E36699938</td>
</tr>
<tr>
<td>• 4 x ½” NPT cable glands</td>
<td>A5E02328485</td>
</tr>
<tr>
<td>Sun lid for MAG 5000/6000 transmitter (Frame and lid)</td>
<td>A5E02328485</td>
</tr>
</tbody>
</table>

### Communication modules for MAG 6000

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART (not for MAG 6000 I)</td>
<td>FDK:085U0226</td>
</tr>
<tr>
<td>Modbus RTU/RS 485</td>
<td>FDK:085U0234</td>
</tr>
<tr>
<td>PROFIBUS PA Profile 3</td>
<td>FDK:085U0236</td>
</tr>
<tr>
<td>PROFIBUS DP Profile 3</td>
<td>FDK:085U0237</td>
</tr>
<tr>
<td>DeviceNet</td>
<td>FDK:085U0229</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus H1</td>
<td>A5E02054250</td>
</tr>
</tbody>
</table>

### Standard coil or electrode cable, 3 x 1.5 mm²/18 gage, single shielded with PVC jacket, Temp. range: -30 ... +70 °C (-22 ... +158 °F)

- 5 m (16.5 ft): A5E02296523
- 10 m (33 ft): FDK:083F0121
- 20 m (65 ft): FDK:083F0210
- 30 m (98 ft): A5E02297309
- 40 m (131 ft): FDK:083F0211
- 50 m (164 ft): A5E02297317
- 60 m (197 ft): FDK:083F0212
- 100 m (328 ft): FDK:083F0213
- 150 m (492 ft): A5E02350255
- 200 m (656 ft): A5E02350355
- 500 m (1640 ft): A5E02350354

1) For stainless steel wall mounting kit, order:
- M20: FDK:085U1018 and A5E00836867
- ½ NPT: FDK:085U1053 and A5E00836868
### Flow Measurement

**SITRANS F M**

#### Transmitter MAG 5000/6000

**Description** | **Article No.**
--- | ---
Special electrode cable \(^1\) (empty pipe detection or low conductivity), 3 x 0.25 mm\(^2\), double shielded with PVC jacket, Temperature range: -30 ... +70 °C (-22 ... +158 °F)  |  
  - 10 m (33 ft) FDK:083F3020  
  - 20 m (65 ft) FDK:083F3095  
  - 40 m (131 ft) FDK:083F3094  
  - 60 m (197 ft) FDK:083F3093  
  - 100 m (328 ft) FDK:083F3092  
  - 150 m (492 ft) FDK:083F3056  
  - 200 m (656 ft) FDK:083F3057  
  - 500 m (1640 ft) FDK:083F3058

Low-noise electrode coax cable for low conductivity and high vibration levels, 3 x 0.13 mm\(^2\); Temp. range: -25 ... +85 °C (-13 ... +185 °F)  |  
  - 2 m (6.6 ft) A5E02272692  
  - 5 m (16.5 ft) A5E02272723  
  - 10 m (33 ft) A5E02272730

Cable kit including standard coil cable (3 x 1.5 mm\(^2\) / 18 gage, single shielded with PVC jacket) and special electrode cable \(^1\) (3 x 0.25 mm\(^2\), double shielded with PVC jacket); Temperature range: -30 ... +70 °C (-22 ... +158 °F)  |  
  - 5 m (16.5 ft) A5E02296329  
  - 10 m (33 ft) A5E01181647  
  - 15 m (49 ft) A5E02296464  
  - 20 m (65 ft) A5E01181656  
  - 25 m (82 ft) A5E02296490  
  - 30 m (98 ft) A5E02296494  
  - 40 m (131 ft) A5E01181686  
  - 50 m (164 ft) A5E02296498  
  - 60 m (197 ft) A5E01181689  
  - 100 m (328 ft) A5E01181691  
  - 150 m (492 ft) A5E01181699  
  - 200 m (656 ft) A5E01181703  
  - 500 m (1640 ft) A5E01181705

Potting kit for IP66/NEMA 6P sealing of sensor junction box  |  FDK:085U0220

19" safety barrier (21 TE) \(^1\)  |  
[EXx e ia] IIC for MAG 1100 Ex sensors and MAG 3100 Ex sensors, 12 ... 24 V, 115 ... 230 V, incl. back plate (A5E02559810)  |  
  FDK:083F5034

Front panel mounting enclosure IP65/NEMA 2 in ABS plastic for 19" insert (21 TE)  |  FDK:083F5030

Front panel mounting enclosure IP65/NEMA 2 in ABS plastic for 19" insert (42 TE)  |  FDK:083F5031

---

\(^1\) Special cables cannot be used with 19" safety barrier

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### Spare parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection board (for polyamide terminal box)</td>
<td></td>
</tr>
<tr>
<td>• 12 ... 24 V</td>
<td>A5E02559817</td>
</tr>
<tr>
<td>• 115 ... 230 V</td>
<td>A5E02559816</td>
</tr>
<tr>
<td>Connection board (for stainless steel terminal box)</td>
<td></td>
</tr>
<tr>
<td>• 12 ... 24 V</td>
<td>A5E02604280</td>
</tr>
<tr>
<td>• 115 ... 230 V</td>
<td>A5E02604272</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert for panel mounting enclosure, 12 ... 24 V/115 ... 230 V</td>
<td>A5E02559809</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with safety barrier for panel mounting enclosure, 12 ... 24 V/115 ... 230 V</td>
<td>A5E02559810</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with safety barrier for panel mounting enclosure, 12 ... 24 V/115 ... 230 V (only for sensors produced before October 2007)</td>
<td>A5E02559811</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with cleaning unit for panel mounting enclosure, 12 ... 24 V/115 ... 230 V</td>
<td>FDK:083F4123</td>
</tr>
<tr>
<td>SENSORPROM memory unit (Sensor code and serial numbers must be specified on order)</td>
<td></td>
</tr>
<tr>
<td>• 2 kB</td>
<td></td>
</tr>
<tr>
<td>(for MAG 5000/6000/ MAG 6000)</td>
<td>FDK:085U1005</td>
</tr>
<tr>
<td>• 1 pc.</td>
<td>FDK:083F5052</td>
</tr>
<tr>
<td>• 10 pcs.</td>
<td>FDK:085U1008</td>
</tr>
<tr>
<td>• 250 B (for MAG 2500/3000)</td>
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<tr>
<td>Display unit for MAG 5000/6000</td>
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</tr>
<tr>
<td>• Black neutral front</td>
<td>FDK:085U1038</td>
</tr>
<tr>
<td>• Siemens front</td>
<td>FDK:085U1039</td>
</tr>
<tr>
<td>HW key</td>
<td>On request</td>
</tr>
<tr>
<td>Cable glands (polyamide), 4 pcs.</td>
<td></td>
</tr>
<tr>
<td>• M20</td>
<td>A5E00822490</td>
</tr>
<tr>
<td>• 1/2&quot; NPT</td>
<td>A5E00822501</td>
</tr>
<tr>
<td>• PG 13.5, 2 pcs.</td>
<td>FDK:083G0228</td>
</tr>
<tr>
<td>Sealing screws for sensor/transmitter, 2 pcs</td>
<td>FDK:085U0221</td>
</tr>
<tr>
<td>Terminal box, in polyamide, inclusive lid, terminal blocks, gasket and screws</td>
<td></td>
</tr>
<tr>
<td>• M20</td>
<td>A5E00836867</td>
</tr>
<tr>
<td>• 1/2&quot; NPT</td>
<td>A5E00836868</td>
</tr>
<tr>
<td>Terminal box, in stainless steel, inclusive lid, terminal blocks, gasket and screws, for MAG 6000 in stainless steel and for all Ex sensors,</td>
<td></td>
</tr>
<tr>
<td>• M20</td>
<td>A5E00822478</td>
</tr>
<tr>
<td>• 1/2&quot; NPT</td>
<td>A5E00822479</td>
</tr>
<tr>
<td>Terminal box (3A) for MAG 1100 F in polyamide, inclusive lid, terminal blocks, gasket and screws</td>
<td></td>
</tr>
<tr>
<td>• M20</td>
<td>A5E37086797</td>
</tr>
<tr>
<td>• 1/2&quot; NPT</td>
<td>A5E34346873</td>
</tr>
<tr>
<td>Gasket for terminal box lid in polyamide or for MAG 5000/ 6000 IP67/ NEMA 4X/6 enclosure in polyamide (5 pcs.)</td>
<td>A5E43491675</td>
</tr>
<tr>
<td>Spare part kit for remote use of sensor with 20 pcs. 5-pin terminal blocks</td>
<td></td>
</tr>
<tr>
<td>Display frame in polyamide for MAG 5000/6000 IP67/ NEMA 4X/6 (5 pcs.)</td>
<td></td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert for wall mounting enclosure, 12 ... 24 V / 115 ... 230 V</td>
<td>A5E02559813</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with safety barrier for wall mounting enclosure, 12 ... 24 V/115 ... 230 V</td>
<td>A5E02559814</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with safety barrier for wall mounting enclosure, 12 ... 24 V/115 ... 230 V (only for sensors produced before October 2007)</td>
<td>A5E02559812</td>
</tr>
<tr>
<td>Connection board MAG 5000/6000 19&quot; insert with cleaning unit for wall mounting enclosure, 12 ... 24 V/115 ... 230 V</td>
<td>A5E02559815</td>
</tr>
<tr>
<td>SENSORPROM programmer with RS 232 interface</td>
<td>FDK:083H4246</td>
</tr>
</tbody>
</table>
**Flow Measurement**

SITRANS FM

Transmitter MAG 5000/6000

### Dimensional drawings

**Transmitter IP67/NEMA 4X/6 compact polyamide**

**Transmitter compact mounted, dimensions in mm (inch)**

**Transmitter wall mounted, dimensions in mm (inch)**

**Transmitter, 19” IP20/NEMA 1 standard unit**

Dimensions in mm (inch)

Weight incl. back print 0.8 kg (1.8 lbs)
**Transmitter, wall mounting IP66/NEMA 4X, 21 TE**

Dimensions in mm (inch)
- Length: 210 (8.27) mm
- Width: 192 (7.56) mm
- Height: 13 (0.51) mm
- Weight excl. transmitter: 2.3 kg (5.0 lbs)

**Transmitter, wall mounting IP66/NEMA 4X, 42 TE**

Dimensions in mm (inch)
- Length: 357 (14.05) mm
- Width: 339 (13.35) mm
- Height: 13 (0.51) mm
- Weight excl. transmitter: 2.9 kg (7.0 lbs)
Flow Measurement
SITRANS FM

Transmitter MAG 5000/6000

Transmitter, panel front IP20/NEMA 1, 21 TE

Dimensions in mm (inch)

Transmitter, panel front IP20/NEMA 1, 42 TE

Dimensions in mm (inch)
Transmitter, back of panel IP20/NEMA 1, 21 TE

Dimensions in mm (inch)

Transmitter, back of panel IP20/NEMA 1, 42 TE

Dimensions in mm (inch)
Flow Measurement
SITRANS F M

Transmitter MAG 5000/6000

Schematics

Electrical connection

Grounding
PE must be connected due to safety class 1 power supply.

Mechanical counters
When mounting a mechanical counter to terminals 57 and 58 (active output), a 1000 µF capacitor must be connected to the terminals 56 and 58. Capacitor + is connected to terminal 56 and capacitor - to terminal 58.

Output cables
If the output cable length is long in noisy environment, we recommend to use shielded cable.

Power supply
Transmitter

115 ... 230 V AC
11 ... 30 V DC/11 ... 24 V AC

PE must be connected due to safety class 1 power supply.

Electrical connection

Output cables
If the output cable length is long in noisy environment, we recommend to use shielded cable.

Passive output (External powered)

Active output (Powered from transmitter)

Digital output

Menu setup

Relay output

Digital input

Sensor connection

1) Special cable with individual wire shields (shown as dotted lines) are only required when using empty pipe function or long cables.