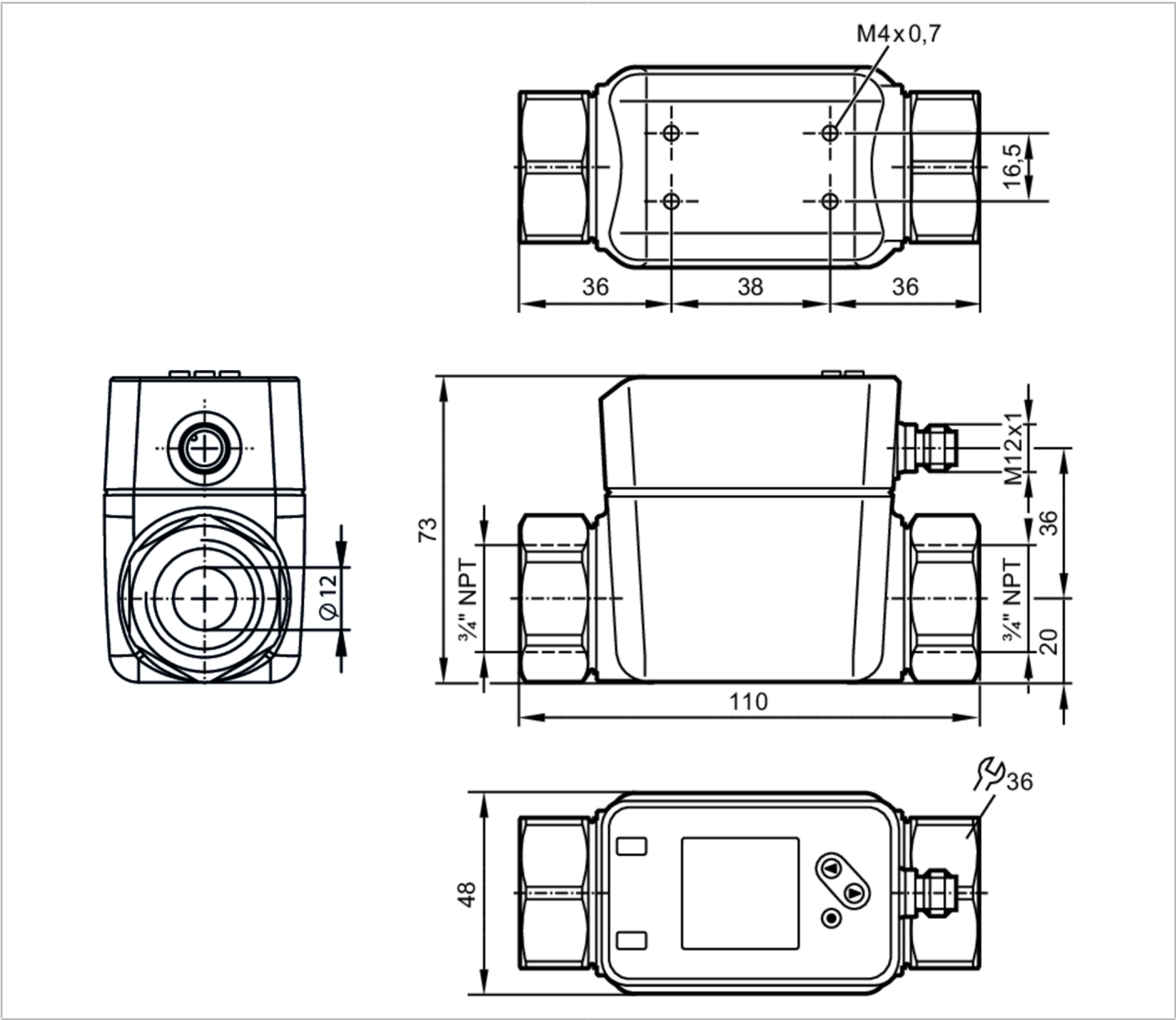


# SM7621



## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100



| Product characteristics      |                                                             |                  |                |                  |
|------------------------------|-------------------------------------------------------------|------------------|----------------|------------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |                  |                |                  |
| Measuring range              | 0.1...75 l/min                                              | 0.006...4.5 m³/h | 1.2...1190 gph | 0.02...19.82 gpm |
| Process connection           | 3/4" NPT DN20                                               |                  |                |                  |
| Application                  |                                                             |                  |                |                  |
| Special feature              | Gold-plated contacts                                        |                  |                |                  |
| Media                        | conductive liquids; water; hydrous media                    |                  |                |                  |
| Note on media                | conductivity: ≥ 20 µS/cm                                    |                  |                |                  |
|                              | viscosity: < 70 mm²/s (40 °C)                               |                  |                |                  |
| Medium temperature           | [°F]                                                        | -4...194         |                |                  |
| Pressure rating              | [bar]                                                       | 16               |                |                  |
| Pressure rating              | [MPa]                                                       | 1.6              |                |                  |



## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100

| Electrical data                                 |      |                                                                                            |                   |                      |
|-------------------------------------------------|------|--------------------------------------------------------------------------------------------|-------------------|----------------------|
| Operating voltage                               | [V]  | 18...30 DC; (to SELV/PELV)                                                                 |                   |                      |
| Current consumption                             | [mA] | < 80                                                                                       |                   |                      |
| Protection class                                |      | III                                                                                        |                   |                      |
| Reverse polarity protection                     |      | yes                                                                                        |                   |                      |
| Power-on delay time                             | [s]  | 5                                                                                          |                   |                      |
| Inputs / outputs                                |      |                                                                                            |                   |                      |
| Number of inputs and outputs                    |      | Number of digital outputs: 2; Number of analogue outputs: 1                                |                   |                      |
| Inputs                                          |      |                                                                                            |                   |                      |
| Inputs                                          |      | counter reset                                                                              |                   |                      |
| Outputs                                         |      |                                                                                            |                   |                      |
| Total number of outputs                         |      | 2                                                                                          |                   |                      |
| Output signal                                   |      | switching signal; analogue signal; pulse signal; IO-Link; frequency signal; (configurable) |                   |                      |
| Electrical design                               |      | PNP/NPN                                                                                    |                   |                      |
| Number of digital outputs                       |      | 2                                                                                          |                   |                      |
| Output function                                 |      | normally open / normally closed; (parameterisable)                                         |                   |                      |
| Max. voltage drop switching output DC           | [V]  | 2                                                                                          |                   |                      |
| Permanent current rating of switching output DC | [mA] | 100                                                                                        |                   |                      |
| Number of analogue outputs                      |      | 1                                                                                          |                   |                      |
| Analogue current output                         | [mA] | 4...20; (scalable)                                                                         |                   |                      |
| Max. load                                       | [Ω]  | 500                                                                                        |                   |                      |
| Pulse output                                    |      | flow rate meter                                                                            |                   |                      |
| Short-circuit protection                        |      | yes                                                                                        |                   |                      |
| Type of short-circuit protection                |      | pulsed                                                                                     |                   |                      |
| Overload protection                             |      | yes                                                                                        |                   |                      |
| Measuring/setting range                         |      |                                                                                            |                   |                      |
| Measuring range                                 |      | 0.1...75 l/min                                                                             | 0.006...4.5 m³/h  | 1.2...1190 gph       |
| Display range                                   |      | -90...90 l/min                                                                             | -5.4...5.4 m³/h   | -1426.8...1426.8 gph |
| Resolution                                      |      | 0.1 l/min                                                                                  | 0.006 m³/h        | 0.6 gph              |
| Set point SP                                    |      | 0.5...75 l/min                                                                             | 0.03...4.5 m³/h   | 8.4...1189 gph       |
| Reset point rP                                  |      | 0.1...74.6 l/min                                                                           | 0.006...4.48 m³/h | 1.2...1183 gph       |
| Analogue start point ASP                        |      | 0...59.9 l/min                                                                             | 0...3.6 m³/h      | 0...950 gph          |
| Analogue end point AEP                          |      | 15.1...75 l/min                                                                            | 0.9...4.5 m³/h    | 240...1189 gph       |
| Low flow cut-off LFC                            |      | 0.1...3.8 l/min                                                                            | 0.006...0.23 m³/h | 1.8...59.4 gph       |
| Frequency end point, FEP                        |      | 15.1...75 l/min                                                                            | 0.9...4.5 m³/h    | 240...1189 gph       |
| Frequency at the end point FRP                  | [Hz] | 1...10000                                                                                  |                   |                      |
| Volumetric flow quantity monitoring             |      |                                                                                            |                   |                      |
| Pulse length                                    | [s]  | 0.003...2                                                                                  |                   |                      |
| Pulse value                                     |      | 0.01...99990000 l                                                                          |                   |                      |
| Temperature monitoring                          |      |                                                                                            |                   |                      |
| Measuring range                                 | [°F] | -4...194                                                                                   |                   |                      |



## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100

|                      |      |               |
|----------------------|------|---------------|
| Display range        | [°F] | -43.6...233.6 |
| Resolution           | [°F] | 0.1           |
| Set point SP         | [°F] | -3.3...194    |
| Reset point rP       | [°F] | -4...193.3    |
| Analogue start point | [°F] | -4...154.4    |
| Analogue end point   | [°F] | 35.6...194    |
| In steps of          | [°F] | 0.1           |

## Accuracy / deviations

## Flow monitoring

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| Accuracy (in the measuring range) | $\pm (0,8 \% \text{ MW} + 0,2 \% \text{ MEW})$ |
| Repeatability                     | $\pm 0,2 \% \text{ MEW}$                       |

## Temperature monitoring

|          |     |                                  |
|----------|-----|----------------------------------|
| Accuracy | [K] | $\pm 2,5 (Q > 5 \% \text{ MEW})$ |
|----------|-----|----------------------------------|

## Response times

## Flow monitoring

|                           |     |                          |
|---------------------------|-----|--------------------------|
| Start-up delay            | [s] | 0...50                   |
| Response time             | [s] | $< 0.25; (dAP = 0, T09)$ |
| Damping process value dAP | [s] | 0...5                    |

## Temperature monitoring

|               |     |                                    |
|---------------|-----|------------------------------------|
| Response time | [s] | 15; $(Q > 10 \% \text{ MEW}, T09)$ |
|---------------|-----|------------------------------------|

## Software / programming

|                           |                                                                                                                                                                         |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; frequency output; current/pulse output; start-up delay; display can be deactivated; Display unit |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Interfaces

|                              |                                                                              |          |
|------------------------------|------------------------------------------------------------------------------|----------|
| Communication interface      | IO-Link                                                                      |          |
| Transmission type            | COM2 (38,4 kBaud)                                                            |          |
| IO-Link revision             | 1.1                                                                          |          |
| SDCI standard                | IEC 61131-9                                                                  |          |
| Profiles                     | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis |          |
| SIO mode                     | yes                                                                          |          |
| Required master port type    | A                                                                            |          |
| Process data analogue        | 3                                                                            |          |
| Process data binary          | 2                                                                            |          |
| Min. process cycle time [ms] | 6                                                                            |          |
| Supported DeviceIDs          | Type of operation                                                            | DeviceID |
|                              | default                                                                      | 958      |

## Operating conditions

|                     |      |              |
|---------------------|------|--------------|
| Ambient temperature | [°F] | -4...140     |
| Storage temperature | [°F] | -13...176    |
| Protection          |      | IP 65; IP 67 |

## Tests / approvals

|                  |                  |              |
|------------------|------------------|--------------|
| EMC              | DIN EN 60947-5-9 |              |
| Shock resistance | DIN IEC 68-2-27  | 20 g (11 ms) |

# SM7621



## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100

|                              |                                                                                       |                    |
|------------------------------|---------------------------------------------------------------------------------------|--------------------|
| Vibration resistance         | DIN IEC 68-2-6:                                                                       | 5 g (10...2000 Hz) |
| MTTF [ANN]                   |                                                                                       | 114                |
| UL approval                  | UL Approval no.                                                                       | I014               |
|                              | File number UL                                                                        | E174189            |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                    |

| Mechanical data          |                                                                                |       |
|--------------------------|--------------------------------------------------------------------------------|-------|
| Weight [g]               |                                                                                | 848.9 |
| Materials                | stainless steel (1.4408/316); stainless steel (1.4404 / 316L); PC; PBT+PC-GF30 |       |
| Materials (wetted parts) | stainless steel (1.4404 / 316L); PEEK; carbon fibre PEEK; FKM                  |       |
| Process connection       | 3/4" NPT DN20                                                                  |       |

| Displays / operating elements |  |                                        |
|-------------------------------|--|----------------------------------------|
| Display                       |  | colour display 1,44", 128 x 128 pixels |
|                               |  | 2 x LED, yellow                        |

| Remarks       |  |                                          |
|---------------|--|------------------------------------------|
| Remarks       |  | MW = measured value                      |
|               |  | MEW = Final value of the measuring range |
| Pack quantity |  | 1 pcs.                                   |

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated

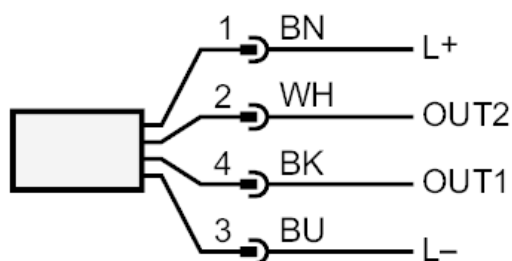




## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100

### Connection



|       |                                                      |
|-------|------------------------------------------------------|
| OUT1: | colours to DIN EN 60947-5-2                          |
|       | switching output volumetric flow quantity monitoring |
|       | switching output Temperature monitoring              |
|       | Pulse output quantity meter                          |
|       | frequency output volumetric flow monitoring          |
|       | frequency output Temperature monitoring              |
| OUT2: | signal output Preset counter                         |
|       | IO-Link                                              |
|       | switching output volumetric flow quantity monitoring |
|       | switching output Temperature monitoring              |
|       | analogue output flow                                 |
|       | analogue output temperature                          |
| BK =  | input counter reset                                  |
|       | Core colours :                                       |
|       | black                                                |
|       | BN = brown                                           |
| BU =  | blue                                                 |
|       | WH = white                                           |

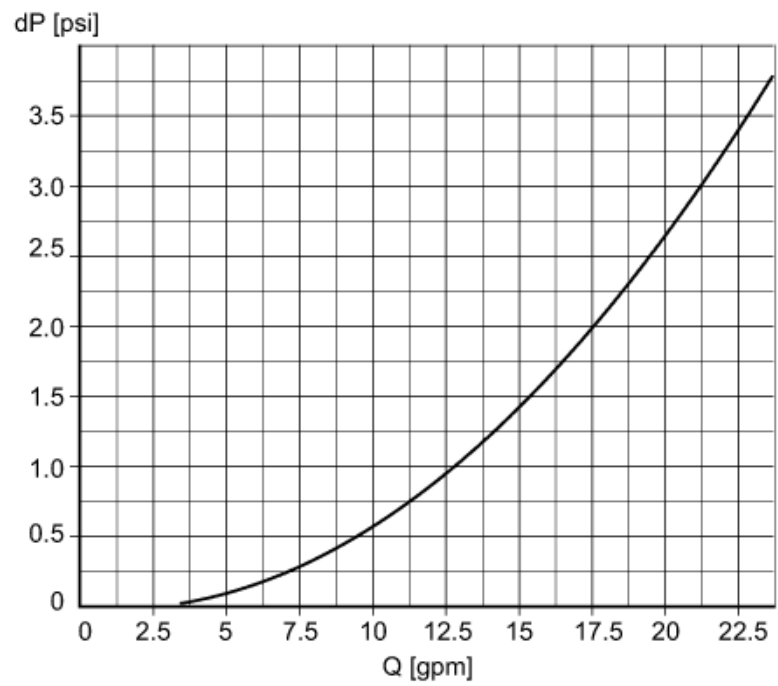
# SM7621

## Magnetic-inductive flow meter

SMN34XGXFRKG/US-100



### Diagrams and graphs



Pressure loss / volumetric flow quantity