

# Radiometric Level and density measurement Gammapilot FMG60

Compact transmitter for point level detection, continuous level, interface and density measurement



More information and current pricing:

[www.us.endress.com/FMG60](http://www.us.endress.com/FMG60)

## Benefits:

- Multifunctional compact transmitter: One instrument for all measuring tasks which results in cost savings in spare parts and maintenance
- SIL2/3 approval in accordance with IEC 61508 for point level detection
- Highest availability, reliability and safety, even for extreme process and ambient conditions
- Highest sensitivity and accuracy at lowest dose rates (ALARA principle)
- Aluminium or stainless steel housing 316L for heavy-duty applications
- 4 to 20mA output for simple plant integration

## Specs at a glance

- **Process temperature** Any
- **Process pressure absolute / max. overpressure limit** Any
- **Min. density of medium** Any
- **Max. measurement distance** Unlimited measuring range Cascade
- **Min. conductivity of medium** Any

**Field of application:** The Gammapilot FMG60 compact transmitter is made for non-contact point level detection, continuous level, interface and density measurement in liquids, solids, suspensions or sludges. The variable transmitter concept with NaJ crystal or plastic scintillators in different lengths guarantees optimum adaptation to individual applications. The transmitter contains a scintillator, photomultiplier and evaluation unit.

## Features and specifications

## Density

**Measuring principle**

Radiometric Density

**Characteristic / Application**

Compact transmitter  
with PT100 input for  
temperature compensation

**Supply / Communication**

AC: 90-253V

DC: 18-36V

**Ambient temperature**

-40°C...50°C / 60°C

With cooling jacket: 0°C...120°C

**Process temperature**

Any

**Process pressure absolute**

Any

**Wetted parts**

Non-contact

**Hygienic**

Non-contact

**Sensor length**

NaJ scintillator 50x50mm

PVT scintillator 200...400mm

**Output**

4-20mA HART

FOUNDATION Fieldbus

PROFIBUS PA

**Certificates / Approvals**

ATEX, FM, CSA, IECEx, TIIS, NEPSI, GOST

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**Density****Components**

Isotope: FSG60

Source container: FQG60, FQG61, FQG62, FQG63,  
QG2000

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**Other approvals and certificates**SIL1

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**Continuous / Liquids****Measuring principle**Radiometric

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**Characteristic / Application**

Compact transmitter

Non-contact measuring technique, for extreme process conditions  
(temperature, pressure)

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**Interface measurement**Interfaces liquid / liquid also with emulsion layers and interfaces liquid /  
solid

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**Specialities**Interface, density and mass flow measurement

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**Supply / Communication**

AC: 90-253V

DC: 18-36V

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**Accuracy**+/-1%

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**Ambient temperature**

-40...60°C

(-40...140°F),

With cooling jacket:

0...120°C

(32...248°F)

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## Continuous / Liquids

**Process temperature**

Any

**Process pressure absolute / max. overpressure limit**

Any

**Main wetted parts**

Non-contact

**Process connection**

Non-contact

**Process connection hygienic**

Non-contact

**Sensor length**

PVT scintillator

400mm...2000mm

&gt;2000mm cascade mode

**Max. measurement distance**

Unlimited measuring range

Cascade

**Communication**

4...20 mA HART

FOUNDATION Fieldbus

PROFIBUS PA

**Certificates / Approvals**

ATEX, FM, CSA, IEC Ex, INMETRO, JPN, NEPSI, EAC

**Safety approvals**

SIL1

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**Continuous / Liquids****Components**

Isotope: FSG60, FSG61

Source container: FQG60, FQG61, FQG62, FQG63, FQG66

Display: FHX40

Mounting accessories: FHG60

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**Continuous / Solids****Measuring principle**Radiometric

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**Characteristic / Application**Compact transmitter

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**Specialities**Cascading for high silos

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**Supply / Communication**

AC: 90-253V

DC: 18-36V

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**Accuracy**+/-1%

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**Ambient temperature**

-40...60°C

(-40...140°F),

With cooling jacket:

0...120°C

(32...248°F

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**Process temperature**Any

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**Process pressure absolute / max. overpressure limit**Any

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**Main wetted parts**Non-contact

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**Continuous / Solids****Process connection**Non-contact

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**Process connection hygienic**Non-contact

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**Sensor length**

PVT scintillator

400mm...2000mm

>2000mm cascade mode

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**Max. measurement distance**

Unlimited measuring range

Cascade

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**Communication**

4...20 mA HART

FOUNDATION Fieldbus

PROFIBUS PA

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**Certificates / Approvals**ATEX, FM, CSA, IEC Ex, INMETRO, JPN, NEPSI, EAC

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**Safety approvals**SIL1

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**Components**

Isotope: FSG60, FSG61

Source container: FQG60, FQG61, FQG62, FQG63,  
FQG66

Display: FHX40

Mounting accessories: FHG60

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**Point Level / Liquids****Measuring principle**Radiometric Limit

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## Point Level / Liquids

**Characteristic / Application**

Compact transmitter

**Specialities**

Interface measurement

**Supply / Communication**

DC: 90-253V

AC: 18-36V

**Ambient temperature**

-40...60°C,

(-40...140°F),

With cooling jacket:

0...120°C

(32...248°F)

**Process temperature**

Any

**Process pressure absolute / max. overpressure limit**

Any

**Min. density of medium**

Any

**Min. conductivity of medium**

Any

**Main wetted parts**

Non-contact

**Process connection**

Non-contact

**Process connection hygienic**

Non-contact

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**Point Level / Liquids****Sensor length**

PVT scintillator 200 mm  
PVT scintillator 400 mm  
Nal scintillator 50x50mm

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**Communication**

4-20mA HART  
FOUNDATION Fieldbus  
PROFIBUS PA

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**Certificates / Approvals**

ATEX, FM, CSA, IEC Ex, INMETRO, JPN, NEPSI, EAC

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**Safety approvals**

SIL1/ SIL2

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**Components**

Isotope: FSG60, FSG61  
Source container: FQG60, FQG61, FQG62, FQG63,  
FQG66

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**Point Level / Solids****Measuring principle**

Radiometric Limit

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**Characteristic / Application**

Compact transmitter

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**Specialities**

Optional separate housing

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**Supply / Communication**

AC: 90-253V  
DC: 18-36V

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## Point Level / Solids

**Ambient temperature**

-40...60°C  
(-40...140°F),  
With cooling jacket:  
0...120°C  
(32...248°F)

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**Process temperature**

Any

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**Process pressure absolute / max. overpressure limit**

Any

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**Min. density of medium**

Any

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**Main wetted parts**

Non-contact

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**Process connection**

Non-contact

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**Process connection hygienic**

Non-contact

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**Sensor length**

PVT scintillator 200 mm (8")  
PVT scintillator 400 mm (16")  
NaJ scintillator 50x50mm (2")

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**Communication**

4...20 mA HART  
FOUNDATION Fieldbus  
PROFIBUS PA

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**Certificates / Approvals**

ATEX, FM, CSA, IEC Ex, INMETRO, JPN, NEPSI, EAC

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Point Level / Solids

**Safety approvals**

SIL1/ SIL2

---

**Components**

Isotope: FSG60, FSG61

Source container: FQG60, FQG61, FQG62, FQG63,  
FQG66

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