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.de.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 / 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

Continuous / Liquids

Measuring principle
Radiometric

Characteristic / Application
Compact transmitter
Non-contact measuring technique, for extreme process conditions (temperature, pressure)

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

Specialities
Interface, density and mass flow measurement

Supply / Communication
AC: 90-253V
DC: 18-36V

Accuracy
+/-1%

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

Process temperature
Any

Process pressure / max. overpressure limit
Any

Main wetted parts
Non-contact

Continuous / Liquids

Process connection
Non-contact

Process connection hygienic
Non-contact

Sensor length
PVT scintillator
400mm...2000mm
>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

Components
Isotope: FSG60, FSG61
Source container: FQG60, FQG61, FQG62, FQG63, FQG66
Display: FHX40
Mounting accessories: FHG60

Continuous / Solids

Measuring principle
Radiometric

Characteristic / Application
Compact transmitter

Continuous / Solids

Specialities
Cascading for high silos

Supply / Communication
AC: 90-253V
DC: 18-36V

Accuracy
+/-1%

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

Process temperature
Any

Process pressure / max. overpressure limit
Any

Main wetted parts
Non-contact

Process connection
Non-contact

Process connection hygienic
Non-contact

Sensor length
PVT scintillator
400mm...2000mm
>2000mm cascade mode

Continuous / Solids

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

Components
Isotope: FSG60, FSG61
Source container: FQG60, FQG61, FQG62, FQG63, FQG66
Display: FHX40
Mounting accessories: FHG60

Point Level / Liquids

Measuring principle
Radiometric Limit

Characteristic / Application
Compact transmitter

Specialities
Interface measurement

Supply / Communication
DC: 90-253V
AC: 18-36V

Point Level / Liquids

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

Process temperature
Any

Process pressure / 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

Sensor length
PVT scintillator 200 mm
PVT scintillator 400 mm
NaI scintillator 50x50mm

Communication
4-20mA HART
FOUNDATION Fieldbus
PROFIBUS PA

Point Level / Liquids

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

Safety approvals
SIL1/ SIL2

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

Point Level / Solids

Measuring principle
Radiometric Limit

Characteristic / Application
Compact transmitter

Specialities
Optional separate housing

Supply / Communication
AC: 90-253V
DC: 18-36V

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

Process temperature
Any

Process pressure / max. overpressure limit
Any

Point Level / Solids

Min. density of medium
Any

Main wetted parts
Non-contact

Process connection
Non-contact

Process connection hygienic
Non-contact

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

Communication
4...20 mA HART
FOUNDATION Fieldbus
PROFIBUS PA

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

Safety approvals
SIL1/ SIL2

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

Density

Measuring principle
Radiometric Density

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
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

Density

Components

Isotope: FSG60

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

Other approvals and certificates

SIL1

More information **www.de.endress.com/FMG60**

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