

Modbus for GRUNDFOS iSOLUTIONS MONITOR

Functional profile and user manual



English (GB) Functional profile and user manual

Original functional profile and user manual

This functional profile describes Grundfos Modbus for GRUNDFOS iSOLUTIONS MONITOR. This specification is for BMS and SCADA integration.

CONTENTS

	Page
1. General information	2
1.1 Hazard statements	2
1.2 Notes	2
2. Introduction	3
2.1 About this functional profile	3
2.2 Assumptions	3
2.3 Definitions and abbreviations	3
3. Specification	4
3.1 Modbus RTU	4
4. Gateway board setup	5
5. Modbus function code overview	6
6. Modbus register addresses	7
6.1 CIM device status [R]	7
6.2 Status [R]	7
6.3 Data [R]	8
6.4 Reserved registers [R]	9



Read this document before installing the product. Installation and operation must comply with local regulations and accepted codes of good practice.

1. General information

1.1 Hazard statements

The symbols and hazard statements below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

The hazard statements are structured in the following way:



SIGNAL WORD

Description of hazard

Consequence of ignoring the warning.
- Action to avoid the hazard.

1.2 Notes

The symbols and notes below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



Observe these instructions for explosion-proof products.



A blue or grey circle with a white graphical symbol indicates that an action must be taken.



A red or grey circle with a diagonal bar, possibly with a black graphical symbol, indicates that an action must not be taken or must be stopped.



If these instructions are not observed, it may result in malfunction or damage to the equipment.



Tips and advice that make the work easier.

2. Introduction

2.1 About this functional profile

This functional profile applies to the following Grundfos product:

- GRUNDFOS iSOLUTIONS MONITOR.

2.2 Assumptions

This functional profile assumes that the reader is familiar with the commissioning and programming of Modbus devices. The reader should also have some basic knowledge of the Modbus protocol and technical specifications.

It is also assumed that an existing Modbus network with a Modbus master is present.

2.3 Definitions and abbreviations

BMS	Building Management System (Modbus)
CIM 280	3G/4G communication interface module for Grundfos Remote Management (GRM) and Grundfos iSolutions Cloud (GiC)
Gateway PCB	Main controller for distribution of data
GiC	Grundfos iSolutions Cloud
LDU	Local Display Unit
VTU	Vibration, Temperature, Ultrasonic

3. Specification

3.1 Modbus RTU

The table below provides an overview of the specifications for Grundfos Modbus RTU. For further details, refer to the specific sections of this functional profile.

Modbus RTU specifications	Description	Comments
Modbus connector	Screw-type terminal	3 pins
Modbus connection type	RS-485, 2-wire + common	Conductors: D0, D1 and Common/GND
Maximum cable length	1200 m	Equals 4000 ft
Slave address for SCADA/Modbus	1	Set via DIP switch SW2.
	2	All changes are detected only after power up, they are not monitored continuously during normal run.
Line termination	ON or OFF	Set via DIP switch SW3
Recommended cable cross-section	0.20 - 0.25 mm ²	AWG24 or AWG23
Supported transmission speeds	9600, 19200 bits/s	Set via DIP switch SW1.
		All changes are detected only after power up, they are not monitored continuously during normal run.
Start bit	1	Fixed value
Data bits	8	Fixed value
Stop bit	1	
Parity bit	No parity	
Modbus visual diagnostics	LED	Off, flashing green, flashing red
Maximum number of Modbus devices	32	Using repeaters, you can increase this number. The legal address range is 1-2.
Maximum Modbus telegram size	256 bytes	Total length. Node address and CRC included.

4. Gateway board setup

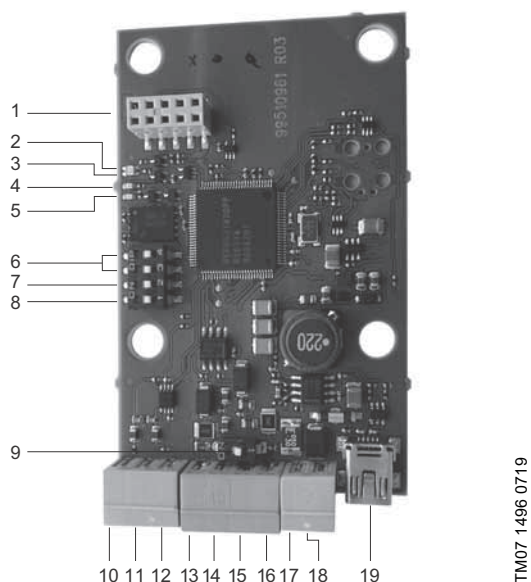


Fig. 1 Gateway PCB

Pos.	Designation	Description
1	CIM module connector	CIM module connection
2	LED1, green	Off: no communication to the SCADA system. Flashing green: communication to the SCADA system.
3	LED2, red	Off: communication to LDU or CIM module. Flashing red slowly: No communication to the LDU monitor or CIM module.
4	LED3, green	Off: missing connection to CIM module. Solid or flashing green: communication to CIM module.
5	LED4, green	Off: No communication to the LDU monitor. Flashing green: communication to the LDU monitor.
6	Not in use	-
7	Address selector SW2	OFF: device address 1, default ON: device address 2
8	Communication speed SW1	OFF: 19200 bits/s, default ON: 9600 bits/s
9	Line termination SW3	OFF: line termination is off, default ON: line termination is on.
10	LDU connection. Gateway PCB is the master.	• RX (5.0 V)
11		• GND
12		• TX (5.0 V)
13	Modbus/SCADA connection. Gateway PCB is the slave.	• D0: negative
14		• Common/GND
15		• D1: positive
16		• Used in production only
17	Supply connection	• 9-24 VDC
18		• GND
19	Mini USB port	Used for software updates. Contact Grundfos Service.

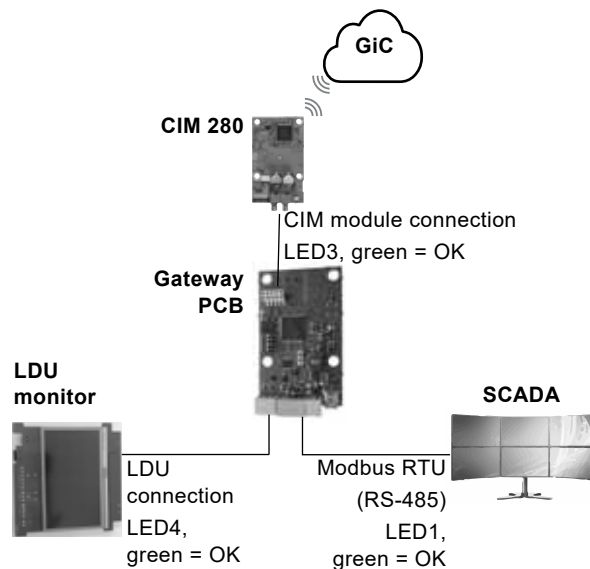


Fig. 2 Setup overview

TM07 4111 4619

5. Modbus function code overview

The supported function codes are shown in the table below:

Type	Code	Hex	Name
16-bit data (registers)	03	0x03	Read holding registers (write is not possible)
	04	0x04	Read input registers
Diagnostics	08	0x08	Diagnostics



Reading and writing coils is not supported.

The same data are available in both holding registers and input registers, meaning that either function (0x03 or 0x04) can be used for reading data.



Unless otherwise stated, the data type used for counters and scaled values is always an unsigned integer.

6. Modbus register addresses

6.1 CIM device status [R]

Register	Access	Modbus parameter name	Description	Modbus scale
00030	[R]	GrundfosUnitFamily	Grundfos product family	Enum
00031	[R]	GrundfosUnitType	Grundfos product type number	Unscaled
00032	[R]	GrundfosUnitVersion	Grundfos product version number	Unscaled
00038	[R]	FieldbusProtocolVersion	Fieldbus protocol version, BCD digit 1-4 aa.bb.	BCD number
00039	[R]	LDUProtocolVersion	LDU protocol version, BCD digit 1-4 aa.bb.	BCD number
00040	[R]	GENIbusProtocolVersion	GENIbus protocol version, BCD digit 1-4 aa.bb.	BCD number
00041	[R]	GatewayVersion	Gateway version, BCD digit 1-4 aa.bb.	BCD number
00042	[R]	LDUSoftwareVersion	LDU software version, BCD digit 1-4 aa.bb.	BCD number
00043	[R]	LDUProtocolVersion	LDU protocol version, BCD digit 1-4 aa.bb.	BCD number
00044	[R]	GatewaySoftwareDayMonth	Product software date, BCD ddm.	BCD number
00045	[R]	GatewaySoftwareYear	Product software date, BCD yyyy.	BCD number

6.2 Status [R]

Register	Access	Modbus parameter name	Description	Modbus scale
00202	[R]	Status.WarningCode	Grundfos-specific warning code Code 24, mechanical vibration is critical Code 30, change bearings Code 43, water hammer is critical Code 44, undertemperature Code 57, dry-running state has occurred for more than 10 s Code 64, overtemperature Code 76, internal communication error Code 88, sensor fault or no sensor attached Code 131, mechanical unbalance is critical Code 208, cavitation is critical	Enum
00203	[R]	Status.AlarmCode	Grundfos-specific alarm code Code 24, mechanical vibration is critical Code 30, change bearings Code 43, water hammer is critical Code 44, undertemperature Code 57, dry-running state has occurred for more than 10 s Code 64, overtemperature Code 76, internal communication error Code 88, sensor fault or no sensor attached Code 131, mechanical unbalance is critical Code 208, cavitation is critical	Enum
00204.0	[R]	WarningBits.Vibration is critical	Mechanical vibration is critical, code 24	Bool
00204.1	[R]	WarningBits.Change bearings	Change bearings, code 30	Bool
00204.2	[R]	WarningBits.Dry run state	Dry-running state has occurred for more than 10 s, code 57	Bool
00204.3	[R]	WarningBits.Sensor Warning	Sensor fault or no sensor attached, code 88	Bool
00204.4	[R]	WarningBits.Internal comm error	Internal communication error, code 76	Bool
00204.5	[R]	WarningBits.Cavitation critical	Cavitation is critical, code 208	Bool
00204.6	[R]	WarningBits.Overttemperature	Overttemperature, code 64	Bool
00204.7	[R]	WarningBits.Undertemperature	Undertemperature, code 44	Bool
00204.8	[R]	WarningBits.Waterhammer critical	Water hammer is critical, code 43	Bool
00204.9	[R]	WarningBits.Unbalance is critical	Mechanical unbalance is critical, code 131	Bool
00205.0	[R]	AlarmBits.Vibration is critical	Mechanical vibration is critical, code 24	Bool
00205.1	[R]	AlarmBits.Change bearings	Change bearings, code 30	Bool
00205.2	[R]	AlarmBits.Dry run state	Dry-running state has occurred for more than 10 s, code 57	Bool
00205.3	[R]	AlarmBits.Sensor fault	Sensor fault or no sensor attached, code 88	Bool
00205.4	[R]	AlarmBits.Internal comm error	Internal communication error, code 76	Bool
00205.5	[R]	AlarmBits.Cavitation critical	Cavitation is critical, code 208	Bool
00205.6	[R]	AlarmBits.Overttemperature	Overttemperature, code 64	Bool

Register	Access	Modbus parameter name	Description	Modbus scale
00205.7	[R]	AlarmBits.Undertemperature	Undertemperature, code 44	Bool
00205.8	[R]	AlarmBits.Waterhammer critical	Water hammer is critical, code 43	Bool
00205.9	[R]	AlarmBits.Unbalance is critical	Mechanical unbalance is critical, code 131	Bool
00206	[R]	Status.UnixRtc_HI	LDU time and date in UNIX format	1 s
00207	[R]	Status.UnixRtc_LO		

6.3 Data [R]

Register	Access	Modbus parameter name	Description	Modbus unit
00301	[R]	MeasuredData.MotorSpeed	Motor speed	1 rpm
00302	[R]	MeasuredData.MediaTemp	Temperature of pumped media	0.01 K
00303	[R]	MeasuredData.MediaTempLowLimit	Temperature of pumped media, low alarm limit	0.01 K
00304	[R]	MeasuredData.MediaTempHighLimit	Temperature of pumped media, high alarm limit	0.01 K
00305	[R]	MeasuredData.Unbalance	Mechanical unbalance level, normalised	0.01
00306	[R]	MeasuredData.UnbalanceMaxGood	Mechanical unbalance level, max. good value	0.01
00307	[R]	MeasuredData.UnbalanceMaxWarn	Mechanical unbalance level, max. warning value	0.01
00308	[R]	MeasuredData.UnbalanceMaxAlarm	Mechanical unbalance level, max. alarm value	0.01
00309	[R]	MeasuredData.UnbalanceState	State of mechanical unbalance. 0: Pump is not running 1: Good 2: Poor, warning 3: Bad, alarm 255: Not detectable	Enum
00310	[R]	MeasuredData.Cavitation	Cavitation level, normalised	0.01
00311	[R]	MeasuredData.CavitationMaxGood	Cavitation level, max. good value	0.01
00312	[R]	MeasuredData.CavitationMaxWarn	Cavitation level, max. warning value	0.01
00313	[R]	MeasuredData.CavitationMaxAlarm	Cavitation level, max. alarm value	0.01
00314	[R]	MeasuredData.CavitationState	State of pump cavitation. 0: Pump is not running 1: Good 2: Poor, warning 3: Bad, alarm 255: Not detectable	Enum
00315	[R]	MeasuredData.WaterHammer	Water hammer level, normalised	0.01
00316	[R]	MeasuredData.WaterHammerMaxGood	Water hammer level, max. good value	0.01
00317	[R]	MeasuredData.WaterHammerMaxWarn	Water hammer level, max. warning value	0.01
00318	[R]	MeasuredData.WaterHammerMaxAlarm	Water hammer level, max. alarm value	0.01
00319	[R]	MeasuredData.WaterHammerState	State of water hammer. 1: Good 2: Poor, warning 3: Bad, alarm 255: Not detectable	Enum
00320	[R]	MeasuredData.BearingWear	Vibration level, normalised	0.01
00321	[R]	MeasuredData.BearingWearMaxGood	Water hammer level, max. good value	0.01
00322	[R]	MeasuredData.BearingWearMaxWarn	Water hammer level, max. warning value	0.01
00323	[R]	MeasuredData.BearingWearMaxAlarm	Water hammer level, max. alarm value	0.01
00324	[R]	MeasuredData.BearingWearState	State of bearing wear. 0: Pump is not running 1: Good 2: Poor, warning 3: Bad, alarm 255: Not detectable	Enum
00325	[R]	MeasuredData.Vibration	Vibration level, normalised	0.01
00326	[R]	MeasuredData.VibrationMaxGood	Water hammer level, max. good value	0.01
00327	[R]	MeasuredData.VibrationMaxWarn	Water hammer level, max. warning value	0.01
00328	[R]	MeasuredData.VibrationMaxAlarm	Water hammer level, max. alarm value	0.01
00329	[R]	MeasuredData.VibrationState	State of mechanical vibration 0: Pump is not running 1: Good 2: Poor, warning 3: Bad, alarm 255: Not detectable	Enum
00330	[R]	MeasuredData.DryRunningCounter	Status of dry runnings.	1

6.4 Reserved registers [R]

Register	Access	Modbus parameter name	Modbus notes, development
00340-00356	[R]	Reserved	Reserved, 16-bit measured data
00357-00366	[R]	Reserved	Reserved, 16-bit configuration parameters
00367-00375	[R]	Reserved	Reserved, 16-bit reference values, setpoints



It is very important to ensure that two devices do not have the same address on the network. If two devices have the same address, the result will be an abnormal behaviour of the whole serial bus.

Argentina

Bombas GRUNDFOS de Argentina S.A.
Ruta Panamericana km. 37.500 Centro
Industrial Garin
1619 Garin Pcia. de B.A.
Phone: +54-3327 414 444
Telefax: +54-3327 45 3190

Australia

GRUNDFOS Pumps Pty. Ltd.
P.O. Box 2040
Regency Park
South Australia 5942
Phone: +61-8-8461-4611
Telefax: +61-8-8340 0155

Austria

GRUNDFOS Pumpen Vertrieb Ges.m.b.H.
Grundfosstraße 2
A-5082 Grödig/Salzburg
Tel.: +43-6246-883-0
Telefax: +43-6246-883-30

Belgium

N.V. GRUNDFOS Bellux S.A.
Boomsesteenweg 81-83
B-2630 Aartselaar
Tél.: +32-3-870 7300
Télécopie: +32-3-870 7301

Belarus

Представительство ГРУНДФОС в
Минске
220125, Минск
ул. Шафарьянская, 11, оф. 56, БЦ
«Порт»
Тел.: +7 (375 17) 286 39 72/73
Факс: +7 (375 17) 286 39 71
E-mail: minsk@grundfos.com

Bosnia and Herzegovina

GRUNDFOS Sarajevo
Zmaja od Bosne 7-7A,
BH-71000 Sarajevo
Phone: +387 33 592 480
Telefax: +387 33 590 465
www.ba.grundfos.com
e-mail: grundfos@bih.net.ba

Brazil

BOMBAS GRUNDFOS DO BRASIL
Av. Humberto de Alencar Castelo Branco,
630
CEP 09850 - 300
São Bernardo do Campo - SP
Phone: +55-11 4393 5533
Telefax: +55-11 4343 5015

Bulgaria

Grundfos Bulgaria EOOD
Slatina District
Iztochna Tangenta street no. 100
BG - 1592 Sofia
Tel. +359 2 49 22 200
Fax. +359 2 49 22 201
email: bulgaria@grundfos.bg

Canada

GRUNDFOS Canada Inc.
2941 Brighton Road
Oakville, Ontario
L6H 6C9
Phone: +1-905 829 9533
Telefax: +1-905 829 9512

China

GRUNDFOS Pumps (Shanghai) Co. Ltd.
10F The Hub, No. 33 Suhong Road
Minhang District
Shanghai 201106
PRC
Phone: +86 21 612 252 22
Telefax: +86 21 612 253 33

COLOMBIA

GRUNDFOS Colombia S.A.S.
Km 1.5 vía Siberia-Cota Conj. Potrero
Chico,
Parque Empresarial Arcos de Cota Bod.
1A.
Cota, Cundinamarca
Phone: +57(1)-2913444
Telefax: +57(1)-8764586

Croatia

GRUNDFOS CROATIA d.o.o.
Buzinski prilaz 38, Buzin
HR-10010 Zagreb
Phone: +385 1 6595 400
Telefax: +385 1 6595 499
www.hr.grundfos.com

GRUNDFOS Sales Czechia and Slovakia s.r.o.

Čajkovského 21
779 00 Olomouc
Phone: +420-585-716 111

Denmark

GRUNDFOS DK A/S
Martin Bachs Vej 3
DK-8850 Bjerringbro
Tlf.: +45-87 50 50 50
Telefax: +45-87 50 51 51
E-mail: info_GDK@grundfos.com
www.grundfos.com/DK

Estonia

GRUNDFOS Pumps Eesti OÜ
Peterburi tee 92G
11415 Tallinn
Tel: + 372 606 1690
Fax: + 372 606 1691

Finland

OY GRUNDFOS Pumput AB
Trukkikuja 1
FI-01360 Vantaa
Phone: +358-(0) 207 889 500

France

Pompes GRUNDFOS Distribution S.A.
Parc d'Activités de Chesnes
57, rue de Malacombie
F-38290 St. Quentin Fallavier (Lyon)
Tél.: +33-4 74 82 15 15
Télécopie: +33-4 74 94 10 51

Germany

GRUNDFOS GMBH
Schlüterstr. 33
40699 Erkrath
Tel.: +49-(0) 211 929 69-0
Telefax: +49-(0) 211 929 69-3799
e-mail: infoservice@grundfos.de
Service in Deutschland:
e-mail: kundendienst@grundfos.de

Greece

GRUNDFOS Hellas A.E.B.E.
20th km. Athinon-Markopoulou Av.
P.O. Box 71
GR-19002 Peania
Phone: +0030-210-66 83 400
Telefax: +0030-210-66 46 273

Hong Kong

GRUNDFOS Pumps (Hong Kong) Ltd.
Unit 1, Ground floor
Siu Wai Industrial Centre
29-33 Wing Hong Street &
68 King Lam Street, Cheung Sha Wan
Kowloon
Phone: +852-27861706 / 27861741
Telefax: +852-27858664

Hungary

GRUNDFOS Hungária Kft.
Tópark u. 8
H-2045 Törökbálint,
Phone: +36-23 511 110
Telefax: +36-23 511 111

India

GRUNDFOS Pumps India Private Limited
118 Old Mahabalipuram Road
Thoraipakkam
Chennai 600 096
Phone: +91-44 2496 6800

Indonesia

PT. GRUNDFOS POMPA
Graha Intirub Lt. 2 & 3
Jln. Cililitan Besar No.454. Makasar,
Jakarta Timur
ID-Jakarta 13650
Phone: +62 21-469-51900
Telefax: +62 21-460 6910 / 460 6901

Ireland

GRUNDFOS (Ireland) Ltd.
Unit A, Merrywell Business Park
Ballymount Road Lower
Dublin 12
Phone: +353-1-4089 800
Telefax: +353-1-4089 830

Italy

GRUNDFOS Pompe Italia S.r.l.
Via Gran Sasso 4
I-20060 Truccazzano (Milano)
Tel.: +39-02-95838112
Telefax: +39-02-95309290 / 95838461

Japan

GRUNDFOS Pumps K.K.
1-2-3, Shin-Miyakoda, Kita-ku,
Hamamatsu
431-2103 Japan
Phone: +81 53 428 4760
Telefax: +81 53 428 5005

Korea

GRUNDFOS Pumps Korea Ltd.
6th Floor, Aju Building 679-5
Yeoksam-dong, Kangnam-ku, 135-916
Seoul, Korea
Phone: +82-2-5317 600
Telefax: +82-2-5633 725

Latvia

SIA GRUNDFOS Pumps Latvia
Deglava biznesa centrs
Augusta Deglava iela 60, LV-1035, Rīga,
Tālr.: + 371 714 9640, 7 149 641
Fakss: + 371 914 9646

Lithuania

GRUNDFOS Pumps UAB
Smolensko g. 6
LT-03201 Vilnius
Tel: + 370 52 395 430
Fax: + 370 52 395 431

Malaysia

GRUNDFOS Pumps Sdn. Bhd.
7 Jalan Peguam U1/25
Glenmarie Industrial Park
40150 Shah Alam
Selangor
Phone: +60-3-5569 2922
Telefax: +60-3-5569 2866

Mexico

Bombas GRUNDFOS de México S.A. de
C.V.
Boulevard TLC No. 15
Parque Industrial Stiva Aeropuerto
Apodaca, N.L. 66600
Phone: +52-81-8144 4000
Telefax: +52-81-8144 4010

Netherlands

GRUNDFOS Netherlands
Veluwezoom 35
1326 AE Almere
Postbus 22015
1302 CA ALMERE
Tel.: +31-88-478 6336
Telefax: +31-88-478 6332
E-mail: info_gnl@grundfos.com

New Zealand

GRUNDFOS Pumps NZ Ltd.
17 Beatrice Tinsley Crescent
North Harbour Industrial Estate
Albany, Auckland
Phone: +64-9-415 3240
Telefax: +64-9-415 3250

Norway

GRUNDFOS Pumper A/S
Strømsveien 344
Postboks 235, Leirdal
N-1011 Oslo
Tlf.: +47-22 90 47 00
Telefax: +47-22 32 21 50

Poland

GRUNDFOS Pompy Sp. z o.o.
ul. Klonowa 23
Baranowo k. Poznania
PL-62-081 Przeźmierowo
Tel: (+48-61) 650 13 00
Fax: (+48-61) 650 13 50

Portugal

Bombas GRUNDFOS Portugal, S.A.
Rua Calvet de Magalhães, 241
Apartado 1079
P-2770-153 Paço de Arcos
Tel.: +351-21-440 76 00
Telefax: +351-21-440 76 90

Romania

GRUNDFOS Pompe România SRL
Bd. Biruintel, nr 103
Pantelimon county Ilfov
Phone: +40 21 200 4100
Telefax: +40 21 200 4101
E-mail: romania@grundfos.ro

Russia

ООО Грундфос Россия
ул. Школьная, 39-41
Москва, RU-109544, Russia
Тел. (+7) 495 564-88-00 (495) 737-30-00
Факс (+7) 495 564 8811
E-mail grundfos.moscow@grundfos.com

Serbia

Grundfos Srbija d.o.o.
Omladinskih brigada 90b
11070 Novi Beograd
Phone: +381 11 2258 740
Telefax: +381 11 2281 769
www.rs.grundfos.com

Singapore

GRUNDFOS (Singapore) Pte. Ltd.
25 Jalan Tukang
Singapore 619264
Phone: +65-6681 9688
Telefax: +65-6681 9689

Slovakia

GRUNDFOS s.r.o.
Prievozská 4D
821 09 BRATISLAVA
Phona: +421 2 5020 1426
sk.grundfos.com

Slovenia

GRUNDFOS LJUBLJANA, d.o.o.
Leskoškova 9e, 1122 Ljubljana
Phone: +386 (0) 1 568 06 10
Telefax: +386 (0)1 568 06 19
E-mail: tehniko-si@grundfos.com

South Africa

Grundfos (PTY) Ltd.
16 Lascelles Drive, Meadowbrook Estate
1609 Germiston, Johannesburg
Tel.: (+27) 10 248 6000
Fax: (+27) 10 248 6002
E-mail: lgradidge@grundfos.com

Spain

Bombas GRUNDFOS España S.A.
Camino de la Fuentecilla, s/n
E-28110 Algete (Madrid)
Tel.: +34-91-848 8800
Telefax: +34-91-628 0465

Sweden

GRUNDFOS AB
Box 333 (Lunnagårdsgatan 6)
431 24 Mölndal
Tel.: +46 31 332 23 000
Telefax: +46 31 331 94 60

Switzerland

GRUNDFOS Pumpen AG
Bruggacherstrasse 10
CH-8117 Fällanden/ZH
Tel.: +41-44-806 8111
Telefax: +41-44-806 8115

Taiwan

GRUNDFOS Pumps (Taiwan) Ltd.
7 Floor, 219 Min-Chuan Road
Taichung, Taiwan, R.O.C.
Phone: +886-4-2305 0868
Telefax: +886-4-2305 0878

Thailand

GRUNDFOS (Thailand) Ltd.
92 Chaloom Phrakiat Rama 9 Road,
Dokmai, Pravej, Bangkok 10250
Phone: +66-2-725 8999
Telefax: +66-2-725 8998

Turkey

GRUNDFOS POMPA San. ve Tic. Ltd. Sti.
Gebze Organize Sanayi Bölgesi
İhsan dede Caddesi,
2. yol 200. Sokak No. 204
41490 Gebze/ Kocaeli
Phone: +90 - 262-679 7979
Telefax: +90 - 262-679 7905
E-mail: satis@grundfos.com

Ukraine

Бізнес Центр Європа
Столичне шосе, 103
м. Київ, 03131, Україна
Телефон: (+38 044) 237 04 00
Факс: (+38 044) 237 04 01
E-mail: ukraine@grundfos.com

United Arab Emirates

GRUNDFOS Gulf Distribution
P.O. Box 16768
Jebel Ali Free Zone
Dubai
Phone: +971 4 8815 166
Telefax: +971 4 8815 136

United Kingdom

GRUNDFOS Pumps Ltd.
Grovebury Road
Leighton Buzzard/Beds. LU7 4TL
Phone: +44-1525-850000
Telefax: +44-1525-850011

U.S.A.

GRUNDFOS Pumps Corporation
9300 Loiret Blvd.
Lenexa, Kansas 66219
Phone: +1-913-227-3400
Telefax: +1-913-227-3500

Uzbekistan

Grundfos Tashkent, Uzbekistan The Repre-
sentative Office of Grundfos Kazakhstan in
Uzbekistan
38a, Oybek street, Tashkent
Телефон: (+998) 71 150 3290 / 71 150
3291
Факс: (+998) 71 150 3292

Addresses Revised 15.01.2019

99549864 1119
ECM: 1274355

Trademarks displayed in this material, including but not limited to Grundfos, the Grundfos logo and "be think innovate" are registered trademarks owned by The Grundfos Group. All rights reserved. © 2019 Grundfos Holding A/S. all rights reserved.