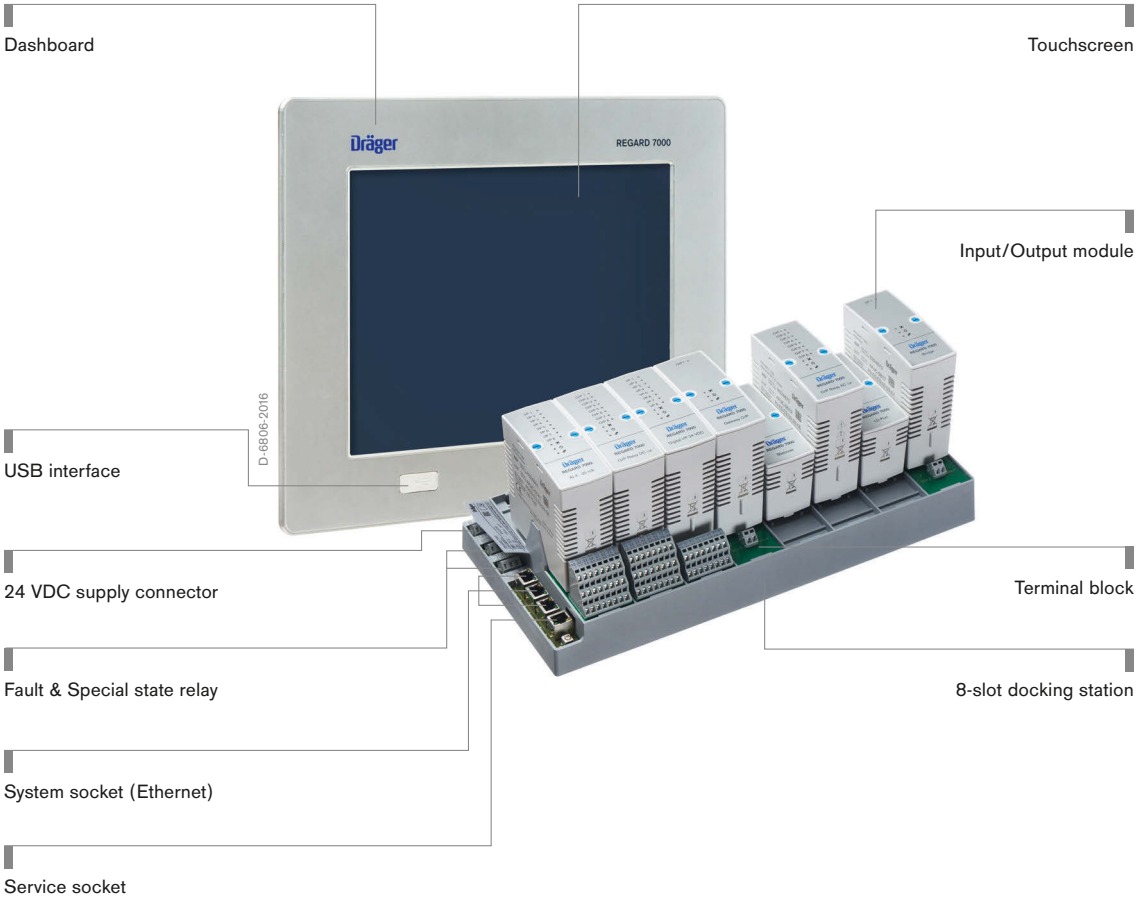
Dräger REGARD® 7000 Control System

The Dräger REGARD® 7000 is a modular and therefore highly expandable analysis system for monitoring various gases and vapours. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 also features exceptional reliability and efficiency. An additional benefit is the backward compatibility with the REGARD®.



Dräger. Technology for Life®

Benefits

Individual and highly compatible

The Dräger REGARD 7000 has been designed to meet individual requirements and suit a wide range of different infrastructures. It processes analogue transmitter signals and supports remote access via HART®. In addition the REGARD 7000 provides a Modbus-Master interface[1]. Modbus RTU, PROFIBUS®[2] and PROFINET®[2] interfaces enable information in higher-level systems to be processed. Complex alarms can be fitted to suit your individual requirements, and switching delays can be configured to optimise your processes. The modular structure of the REGARD 7000 makes it possible to adapt the design of the system to suit your exact needs. The system can be altered or extended with ease. You can also connect existing REGARD equipment to the new REGARD 7000. The advantages of the REGARD 7000 in terms of overview and documentation can therefore be translated to the entire system.

Safe and secure with minimal false alarms

The REGARD 7000 uses a ‘masterless’ system architecture. This prevents the entire system from failing if one component fails (single point of failure). It also makes it easier to add on independent subsystems. The use of optimised software filters in signal preparation, the option of suppressing the alarm and the comparison of analogue and digital transmitted measurement values mean that false alarms are prevented more effectively than ever before. Special signals (errors, warnings, etc.) that are transmitted in analogue form are always correctly identified, facilitating the assessment process.

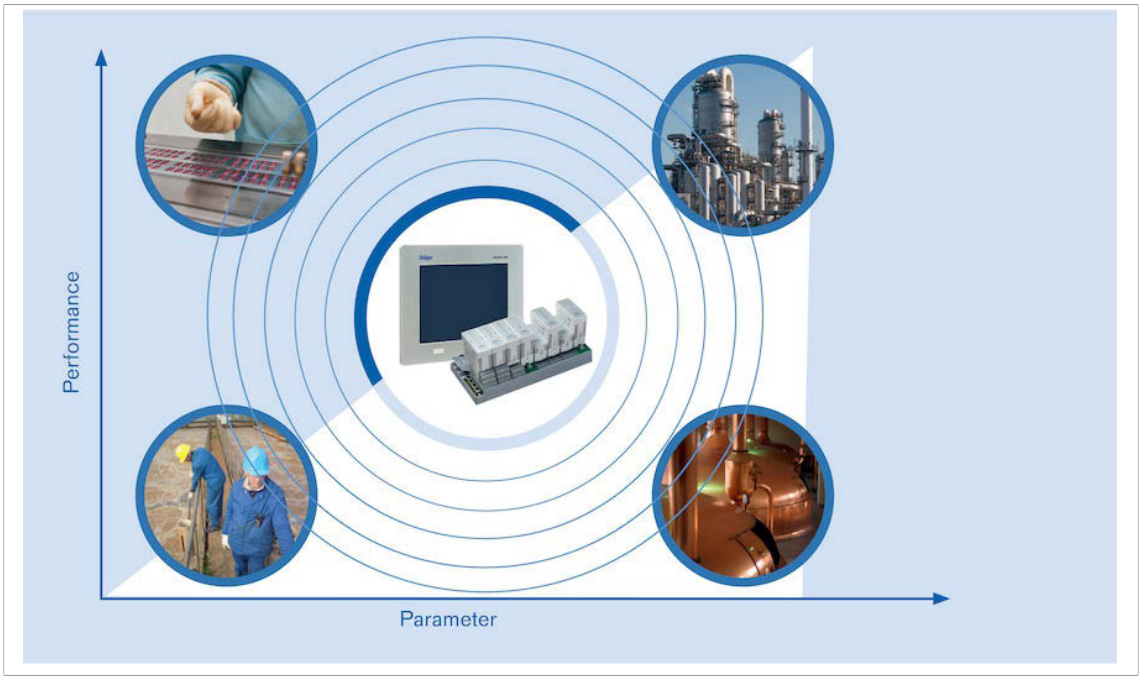
Optimal installation and configuration

Channel configuration is made significantly faster and more secure using metadata, transmitted via HART®, from the transmitter or the configuration assistant. The logical restrictions on the possible manual settings effectively prevent incorrect configurations. The REGARD 7000 supports operation by preparing documents directly at the source. A simple menu structure and user-friendly displays on the dashboard, as well as the easy-to-learn operation and the associated symbols, ensure that operation is as safe and secure as possible. You can prepare the configuration via PC software offline and upload it to the system later. The wiring can be clearly structured and tidied away before the main components are installed.

Maintenance and documentation — as efficient as possible

The REGARD 7000 is able to use HART® communication, thereby making it possible to maintain your gas warning system much more efficiently. It allows you to access all connected HART®-enabled transmitters remotely from a central point. This ensures better preparation of maintenance work with respect to the provision of materials and tools. It also makes it easier to guide service personnel with greater accuracy. Simulations can be started on the transmitter via remote access[3], for example to test allocations. The documentation frequently required by monitoring institutions, for example, can also be generated by the REGARD 7000. This documentation is made available without the need for additional tools.

Control unit for facilities of any complexity



Whether sewage management, brewery, pharmaceutical or chemical industry: The modular control unit Dräger REGARD® grows with its tasks. It is suited for the monitoring of small to big sites of any complexity.

System Components

ST-11659-2007

Dräger PIR 7000

The Dräger PIR 7000 is an explosion proof point infrared gas detector for continuous monitoring of flammable gases and vapours. With its stainless steel SS 316L enclosure and drift-free optics this detector is built for the harshest industrial environments, e.g. offshore installations.

System Components

ST-3812-2003

Dräger Polytron® 7000

The Dräger Polytron® 7000 is a gas detector that can satisfy many toxic and oxygen gas measurement applications on a single platform. It meets the requirements of the compliance market as well as the high specification requirements of customised solutions.

D-15042-2010

Dräger Polytron® 8200 CAT

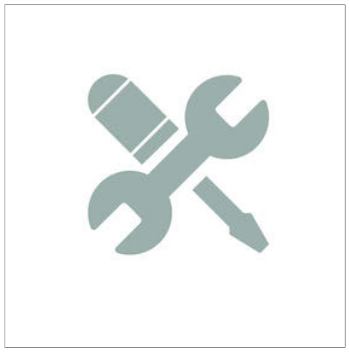
The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of flammable gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex ... DD that will detect most flammable gases and vapours. In addition to a 3-wire 4 to 20-mA analogue output with relays it also offers Modbus and Fieldbus protocols, making it compatible with most control systems.

D-11957-2016

Dräger Flame 2570 (UFI)

Extreme short response time and high reliablility against false alarms characterise the Dräger Flame 2570. The ultra fast triple IR flame detector detects hydrocarbon based fire to distance of up to 90 metres.

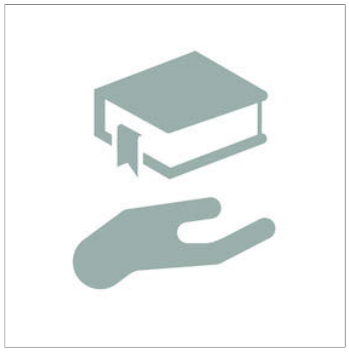
Services



D-2331-2016

Product Service

Our product service department supports you with a range of service packages – in our shops or on site in your plant. Care, servicing and maintenance are key factors when it comes to safety. Diligent maintenance and care is also absolutely necessary from an economics perspective. Preventive checks, service procedures and original replacement parts make your investment last longer.



D-2335-2016

Training

The Dräger Academy has imparted well-founded and practical knowledge for over 40 years. With over 110 authorized trainers and more than 600 available topics, we conduct more than 2,400 training sessions per year. We equip your employees with the knowledge required for real-life situations and ensure that the learned material can be recalled and applied reliably – in their everyday work and especially in stressful situations. To meet your needs, we are also happy to develop a customized training program specifically for you.

Related Products

D-1130-2010

Dräger REGARD® 3900 Series

The devices of the Dräger REGARD® 3900 series can be used as standalone controllers. You can configure up to 16 measuring channels. In addition, the modular setup enables you to customise the control units to the demands of your plant. You can also embed further features to existing alarms.

Technical Data

Environmental conditions	Dräger REGARD® 7000 (without Dashboard)	Dashboard
Temperature	0 to 55 °C / 32 to 131 °F (during operation)	0 to 50 °C / 32 to 122 °F (during operation)
	-40 to +65 °C / -40 to 149 °F (in storage)	-20 to +60 °C / -4 to 140 °F (in storage)
Humidity	5 to 95% RH, non-condensing	20 to 90% RH, non-condensing (during operation)
		5 to 90% RH, non-condensing (in storage)
Pressure	700 to 1,300 hPa	700 to 1,300 hPa
Height	max. 2,000 m (6,561 ft) above sea level (only applies to Relay Module 240 V AC)	max. 3,000 m (9,842 ft) above sea level

System reaction times	
Transmission of measurement values and status information in Dräger REGARD® 7000	typically 1 s max. 3.3 s

Setting times	
t20	<3 s
t50	<3 s
t90	<3 s
The setting times are independent of the sample gas.	

Time to measurement readiness	
After switching on the Dräger REGARD® 7000	<30 s

Dräger REGARD® 7000 Advanced Dashboard 6RU	
Operating voltage	24 V (19.2 to 28.8 V) DC
Current draw	Typ. 1.0 A at 24 V DC
Dimensions	266 x 483 x 68 mm / 10.47 x 19.02 x 2.68" (H x W x D)
Weight	3,800 g / 8.16 lbs

Dräger REGARD® 7000 Advanced Dashboard PM	
Operating voltage	24 V (19.2 to 28.8 V) DC
Current draw	Typ. 1.0 A at 24 V DC
Dimensions	286 x 347 x 68 mm / 11.26 x 13.66 x 2.68" (H x W x D)
Weight	3,700 g / 8.16 lbs

Dräger REGARD® 7000 Advanced Dashboard 3RU	
Operating voltage	24 V (19.2 to 28.8 V) DC
Current draw	Typ. 0.7 A at 24 V DC
Dimensions	132,5 x 483 x 155,5 mm / 5.0 x 19.02 x 6.1" (H x W x D)
Weight	2490 g / 5.49 lbs

Dräger REGARD® 7000 Dockingstation 8-slot	
Terminal clamps	Plug-in contacts for wire cross sections of 0.08 to 2.5 mm^2
Operating voltage	24 V (18 to 30 V) DC
Current draw:	Max. 22 A (independent of the number of installed modules and connected transmitters)
Power loss	Max. 15 W at 24 V
SFR output	Min. 3.3 V, 10 mA, max. 30 V, 2 A switching capacity; the SFR output must be protected against overload

Technical Data

SSR output	Min. 3.3 V, 10 mA, max. 30 V, 2 A switching capacity; the SSR output must be protected against overload
Number of modules per docking station	Max. 8
Dimensions	184 x 400 x 78 mm / 7.24 x 15.75 x 3.07" (H x W x D)
Weight	2,600 g / 5.73 lbs

Dräger REGARD® 7000 Dockingstation 4-slot

Terminal clamps	Plug-in contacts for wire cross sections of 0.08 to 2.5 mm^2
Operating voltage	24 V (18 to 30 V) DC
Current draw:	Max. 11 A (independent of the number of installed modules and connected transmitters)
Power loss	Max. 15 W at 24 V
SFR output	Min. 5 V, 10 mA, max. 30 V, 2 A switching capacity; the SFR output must be protected against overload
SSR output	Min. 5 V, 10 mA, max. 30 V, 2 A switching capacity; the SSR output must be protected against overload
Number of modules per docking station	Max. 4
Dimensions	183,5 x 213 x 78 mm / 7.22 x 8.37 x 3.07" (H x W x D)
Weight	895 g / 5.73 lbs

Dräger REGARD® 7000 4-20 mA Input Module

Number of input channels	Max. 8
Operating voltage	24 V (18 to 30 V) through docking station
Transmitter supply voltage	Typically 24 V, depending on the supply voltage of the docking station
Transmitter supply current	Max. 500 mA per channel, with max. 4 inputs occupied Max. 250 mA per channel, with 4 to 8 inputs occupied Total transmitter supply current max. 2 A
Voltage range for signal input	0 to 24 mA (short-circuit detection at 38 mA)
Measurement precision	±0.05 mA ±0.002 mA/K (0 to 4 mA) ±1.25% ±0.05%/K (4 to 24 mA)
Current draw	Max. 2.1 A
Power loss	Max. 5 W at 24 V
Terminal block	24-pin, DC
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	265 g / 0.58 lbs

Dräger REGARD® 7000 4-20 mA Input Module c/w HART®

Number of input channels	Max. 8
Operating voltage	24 V (18 to 30 V) through docking station
Transmitter supply voltage	Typically 24 V, depending on the supply voltage of the docking station
Transmitter supply current	Max. 500 mA per channel, with max. 4 inputs occupied Max. 250 mA per channel, with 4 to 8 inputs occupied Total transmitter supply current max. 2 A
Voltage range for signal input	0 to 24 mA (short-circuit detection at 38 mA)
Measurement precision	±0.05 mA ± 0.002 mA/K (0 to 4 mA) ±1.25% ± 0.05%/K (4 to 24 mA)
Current draw	Max. 2.1 A
Power loss	Max. 5 W at 24 V
Terminal block	24-pin, DC
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	265 g / 0.58 lbs

Technical Data

Dräger REGARD® 7000 Digital Input Module	
Number of input channels	Max. 8
Operating voltage	24 V (18 to 30 V) through docking station
Channel output voltage	Typically 24 V, depending on the supply voltage of the docking station
Supply current of the connected input elements	Max. 400 mA per channel, with max. 4 inputs occupied Max. 250 mA per channel, with 4 to 8 inputs occupied Total supply current max. 2 A
Standby current through EOL resistance	Configurable to 0 mA (line break detection switched off) and in the range of 5 to 400 mA
Switching threshold	Configurable in the range of 3 to 400 mA
Current draw	Max. 2.1 A
Power loss	Max. 5 W at 24 V
Terminal block	16-pin, DC
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	265 g / 0.58 lbs

Dräger REGARD® 7000 Gateway Module (Part of 83 24 872)	
Number of channels	1 channel, bidirectional; One gateway module always occupies one port in the overall system
Modbus RTU gateway and gateway module supply voltage	24 V (18 to 30 V) DC
Gateway module current draw	Typ. 160 mA at 24 V
Gateway module power loss	Max. 4 W at 24 V
Modbus RTU gateway current draw	Typ. 80 mA at 24 V
Modbus RTU gateway power loss	Max. 2.5 W at 24 V
Transmission rate	Adjustable 9,600 to 921,600 baud
Cable length between Dräger REGARD® 7000 Gateway O/P and Dräger REGARD® 7000 Modbus RTU Gateway	Max. 5 m
Cable type	STP (shielded twisted pair), e.g. LAPP Unitronic® Bus LD
Cable length RS-485 side	<57,600 baud max. 1,200 m <230,400 baud max. 500 m <921,600 baud max. 120 m
Terminal block	2-pin
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	265 g / 0.58 lbs

Galvanic isolation between Dräger REGARD® 7000 and field-bus side through Modbus RTU Gateway

Dräger REGARD® 7000 Modbus RTU Gateway (Part of 83 24 872)	
Dimensions	116 x 23 x 115 mm / 4.57 x 0.91 x 4.53" (H x W x D)
Weight	130 g / 0.29 lbs

Dräger REGARD® 7000 Bridge Module	
Current draw	Typ. 160 mA at 24 V
Power loss	Max. 4 W at 24 V
Number of channels	1 channel, bidirectional; One bridge module always occupies 99 ports in the overall system
Transmission rate	4,800 baud
Cable length	Max. 100 m
Cable type	STP (shielded twisted pair),

Technical Data

	e.g. LAPP Unitronic® Bus LD
Terminal block	2-pin
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	265 g / 0.58 lbs

Dräger REGARD® 7000 Relay Module 240 V AC/240 V AC complex

Number of output relays	8, each with one potential-free changeover
Switching voltage	110 to 240 V AC
Switching current	10 mA to 2 A; cosine phi ≥0.4
Power consumption	Max. 100 mA (no relays activated) Max. 200 mA (8 relays activated)
Power loss	Max. 5 W at 24 V
Update rate of switch outputs	0.5 s
Terminal block	24-pin, 240 V AC
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	340 g / 0.75 lbs

Dräger REGARD® 7000 Relay Module 24 V DC/24 V DC complex

Number of output relays	8, each with one switch contact
Switching voltage	3.3 to 24 V DC
Switching current	10 mA to 2 A
Power consumption	Max. 100 mA (no relays activated) Max. 200 mA (8 relays activated)
Power loss	5 W at 24 V
Update rate of switch outputs	0.5 s
Terminal block	24-pin, 24 V
Dimensions	110 x 46 x 130 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	340 g / 0.75 lbs

Dräger REGARD® 7000 Long Distance Gateway (Part of 83 23 815)

Supply voltage	24 V (18 to 30 V) DC
Long distance gateway port current draw	Typ. 4 mA at 24 V
Long distance gateway port power loss	Max. <0.1 W at 24 V
Converter current draw	Typ.<180 mA per converter at 24 V
Converter power loss	Max. 5 W at 24 V per converter
Transmission rate	5 MBit/s
Galvanic isolation	Ethernet to DSL
Transmission distance	Up to 3,000 m (9,843 ft), depending on wire cross-section and interference factors
Dimensions	110 x 46 x 85 mm / 4.33 x 1.81 x 5.12" (H x W x D)
Weight	115 g / 0.25 lbs

Dräger REGARD® 7000 Ethernet to DSL Converter (Part of 83 23 815)

Dimensions	99 x 35 x 115 mm / 3.9 x 1.38 x 4.53" (H x W x D)
Weight	185 g / 0.41 lbs

Dräger REGARD® 7000 Slotcover

Dimensions	110 x 46 x 85 mm / 4.33 x 1.81 x 3.35" (H x W x D)
Weight	115 g / 0.25 lbs

Dräger REGARD® 7000 Terminal Block

Dimensions	69 x 44 x 44 mm / 2.72 x 1.73 x 1.73" (H x W x D)
Weight	53 g / 0.12 lbs

Technical Data

Approvals
CE marking
ATEX
SIL 2
DNV SL[2]

HART® is a registered trademark of the HART® Communication Foundation
PROFIBUS® and PROFINET® are registered trademarks of PROFIBUS and PROFINET International (PI).
Unitronic® is a registered trademark of Lapp GmbH

Ordering Information

Dräger REGARD® 7000 Advanced Dashboard 6RU	83 26 850
Dräger REGARD® 7000 Advanced Dashboard PM	83 26 860
Dräger REGARD® 7000 Advanced Dashboard 3RU	83 27 840
Dräger REGARD® 7000 Dockingstation 8-slot	83 22 286
Dräger REGARD® 7000 Dockingstation 4-slot	83 22 320
Dräger REGARD® 7000 4-20 mA Input Module	83 24 001
Dräger REGARD® 7000 Digital Input Module	83 24 003
Dräger REGARD® 7000 Bridge Module	83 24 870
Dräger REGARD® 7000 Relay Module 24 V DC	83 23 250
Dräger REGARD® 7000 Relay Module 240 V AC	83 24 010
Dräger REGARD® 7000 Relay Module 24 V DC complex	83 24 874
Dräger REGARD® 7000 Relay Module 240 V AC complex	83 24 875
Dräger REGARD® 7000 Slotcover	83 23 812
Dräger REGARD® 7000 Terminal Block 24-pin AC	83 24 016
Dräger REGARD® 7000 Terminal Block 24-pin DC	83 24 020
Dräger REGARD® 7000 Terminal Block 2-pin	83 24 871
Dräger REGARD® 7000 Terminal Block 16-pin	83 24 017
Dräger REGARD® 7000 4-20 mA Input Modul c/w HART®	83 27 250
Dräger REGARD® 7000 Modbus RTU Gateway Set	83 24 872
Dräger REGARD® 7000 Long Distance Gateway Set	83 23 815

[1] estimated availability mid of 2018
[2] estimated availability end of 2018
[3] estimated availability 2018

Notes

Notes

9101 970 | 17.11-3 | HQ | PP | Subject to modifications | © 2017 Drägerwerk AG & Co. KGaA

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