



# Dräger REGARD® 7000 Controller

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The Dräger REGARD® 7000 is a modular and highly expandable control system for monitoring various gases and vapors. Ideal for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 delivers exceptionally reliability and efficiency. An additional benefit is the controller's backward compatibility with the REGARD®.

# Dräger REGARD® 7000



# Benefits

## Highly compatible, highly customizable

The Dräger REGARD® 7000 was designed to meet the individual requirements of a wide range of different infrastructures. It processes analog transmitter signals and supports remote access via HART®. A Modbus RTU interface enables information in higher-level systems to be processed. Complex alarms can be fitted to suit your specific requirements, and switching delays can be configured to optimize 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, and can also be connected to existing REGARD® equipment. This enables you to extend the management and documentation advantages of the REGARD® 7000 to the entire system.

## Minimize 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) and makes it easier to add on independent subsystems. The use of optimized software filters in signal preparation, the alarm suppression option, and the comparison of analog 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 analog form are always correctly identified, facilitating the assessment process.

## Optimal installation and configuration

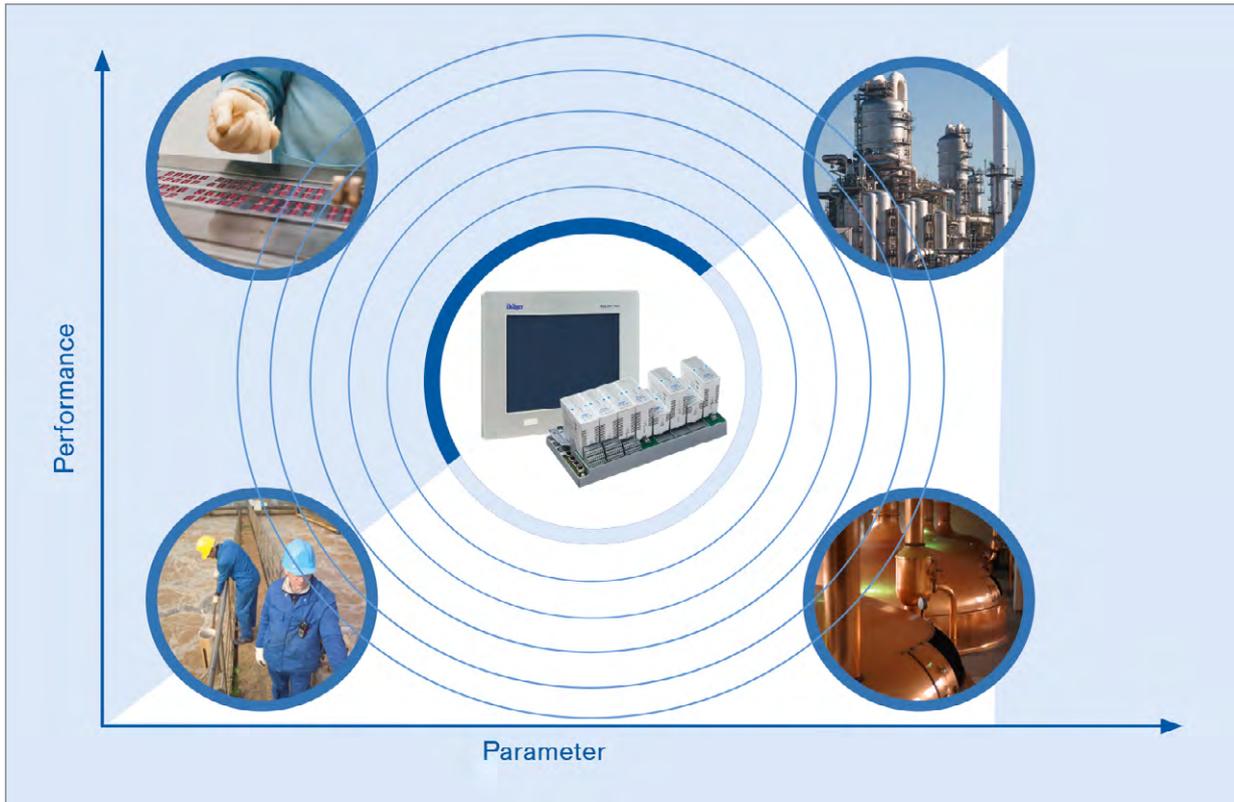
Channel configuration is made significantly faster and more secure using metadata, transmitted via HART®, from the transmitter or the configuration assistant. Logical restrictions on the possible manual settings prevent incorrect configurations. The REGARD® 7000 prepares documents directly at the source. The system is easy to learn and easy to use, with a simple menu structure and user-friendly displays and symbols on the dashboard—making operation as safe and secure as possible. The wiring can be clearly structured and tucked away before the main components are installed.

## Efficient maintenance and documentation

The REGARD® 7000 is able to use HART® communication, which enables you to maintain your gas warning system much more efficiently by accessing all connected HART®-enabled transmitters remotely from a central point. Central management makes it easier to efficiently prepare materials and tools for maintenance and guide service personnel with greater accuracy. Simulations can be started on the transmitter via remote access to test allocations, for example.

The REGARD® 7000 can also generate necessary documentation for regulatory authorities—without the need for additional tools.

# Efficient gas warning control for facilities of any complexity



The Dräger REGARD® is ideal for wastewater treatment plants, breweries, and pharmaceutical and chemical facilities. Because of its modular design, the control unit grows with its tasks—reliably monitoring everything from small operations to large sites of any complexity.

## System Components



D-0986-2020

### Dräger PIR 7000

The Dräger PIR 7000 is an explosion-proof point gas detection transmitter that uses infrared (IR) technology to continuously monitor hydrocarbon gases in %LEL or ppm. With its stainless steel SS 316L enclosure and drift-free optics, this detector is built for the harshest industrial environments, including offshore installations.



ST-3812-2003

### Dräger Polytron® 7000

The Dräger Polytron® 7000 gas detector can satisfy all toxic gas and oxygen measurement applications on a single platform. It meets compliance requirements, as well as the high specification requirements of customized solutions.

## System Components



D-797-2016

### Dräger Polytron® 8200 CAT

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



D-49077-2012

### Dräger Flame 5000

In today's industrial workplaces, flame detection is essential for protecting both people and facilities. The Dräger Flame 5000 is an explosion-proof flame detector based on advanced color imaging technology. Each detector operates as a standalone unit and incorporates an integrated closed circuit television (CCTV) system, digital signal processing, and software algorithms to process live video images and interpret the characteristics of a flame.

## Accessories



D-19072-2016

### Dräger Service

When your operation's safety equipment is backed by over 125 years of experience and supported by the same team that engineered it, you can rely on service and rental solutions that are tailored to meet your unique needs. With Dräger's safety solutions, you get complete peace of mind, budget security, and full-service support that you can count on every step of the way. That's the Dräger Service Advantage.

## Related Products



D-27777-2009

### Dräger REGARD® 3900

The Dräger REGARD® 3900 is a standalone control system for the detection of toxic gases, oxygen levels, and Ex hazards. The control system is fully configurable between 1 and 16 channels, depending upon the type and quantity of input/output boards installed.

# 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)
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
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## 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
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## 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 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	3,700 g / 8.16 lbs

## Dräger REGARD® 7000 Dockingstation 8-slot

Operating voltage	Plug-in contacts for wire cross sections of 0.08 to 2.5 mm <sup>2</sup>
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
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

# Technical Data

## 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	$\pm 0.05 \text{ mA} \pm 0.002 \text{ mA/K}$ (0 to 4 mA) $\pm 1.25\% \pm 0.05\%/K$ (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	$\pm 0.05 \text{ mA} \pm 0.002 \text{ mA/K}$ (0 to 4 mA) $\pm 1.25\% \pm 0.05\%/K$ (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

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

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

# Technical Data

## 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), 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
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 $\geq 0.4$
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 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

## Dräger REGARD® 7000 Ethernet to DSL Converter

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 Long Distance Gateway

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

## Approvals

ATEX	Ex II(I)GD
SIL	SIL 2
CE-marking	ATEX Directive (2014/34/EU) Electromagnetic Compatibility (2014/30/EU) Low Voltage Directive (2014/35/EU)
FM / UL / CSA	FM 6320:2018, ANSI/FM/UL 60079-29-1:2019CSA C22.2 No. 60079-29-1:2017

HART® is a registered trademark of the HART® Communication Foundation

Unitronic® is a registered trademark of Lapp GmbH

## Ordering Information

Dräger REGARD® 7000 Advanced Dashboard 6HE	8323821
Dräger REGARD® 7000 Advanced Dashboard TM	8322345
Dräger REGARD® 7000 Docking station 8-slot	8322286
Dräger REGARD® 7000 4-20 mA Input Module	8324001
Dräger REGARD® 7000 Digital Input Module	8324003
Dräger REGARD® 7000 Bridge Module	8324870
Dräger REGARD® 7000 Relay Module 24 V DC	8323250
Dräger REGARD® 7000 Relay Module 240 V AC	8324010
Dräger REGARD® 7000 Relay Module 24 V DC complex	8324874
Dräger REGARD® 7000 Relay Module 240 V AC complex	8324875
Dräger REGARD® 7000 Slotcover	8323812
Dräger REGARD® 7000 Terminal Block 24-pin AC	8324016
Dräger REGARD® 7000 Terminal Block 24-pin DC	8324020
Dräger REGARD® 7000 Terminal Block 2-pin	8324871
Dräger REGARD® 7000 Terminal Block 16-pin	8324017
Dräger REGARD® 7000 4-20 mA Input Modul c/w HART®	8327250
Dräger REGARD® 7000 Modbus RTU Gateway Set	8324872
Dräger REGARD® 7000 Long Distance Gateway Set	8323815

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