

WAGO-I/O-SYSTEM 750

750 XTR Series

TAKING IT TO THE **EXTREME** –
THE STANDARD
FOR 750 XTR



WAGO®



eXTReMe
temperature
from -40°C to $+70^{\circ}\text{C}$



eXTReMe
insulation
up to 5 kV impulse voltage

DIN EN 60870-2-1



eXTReMe
vibration
up to 5g acceleration

DIN EN 60068-2-6



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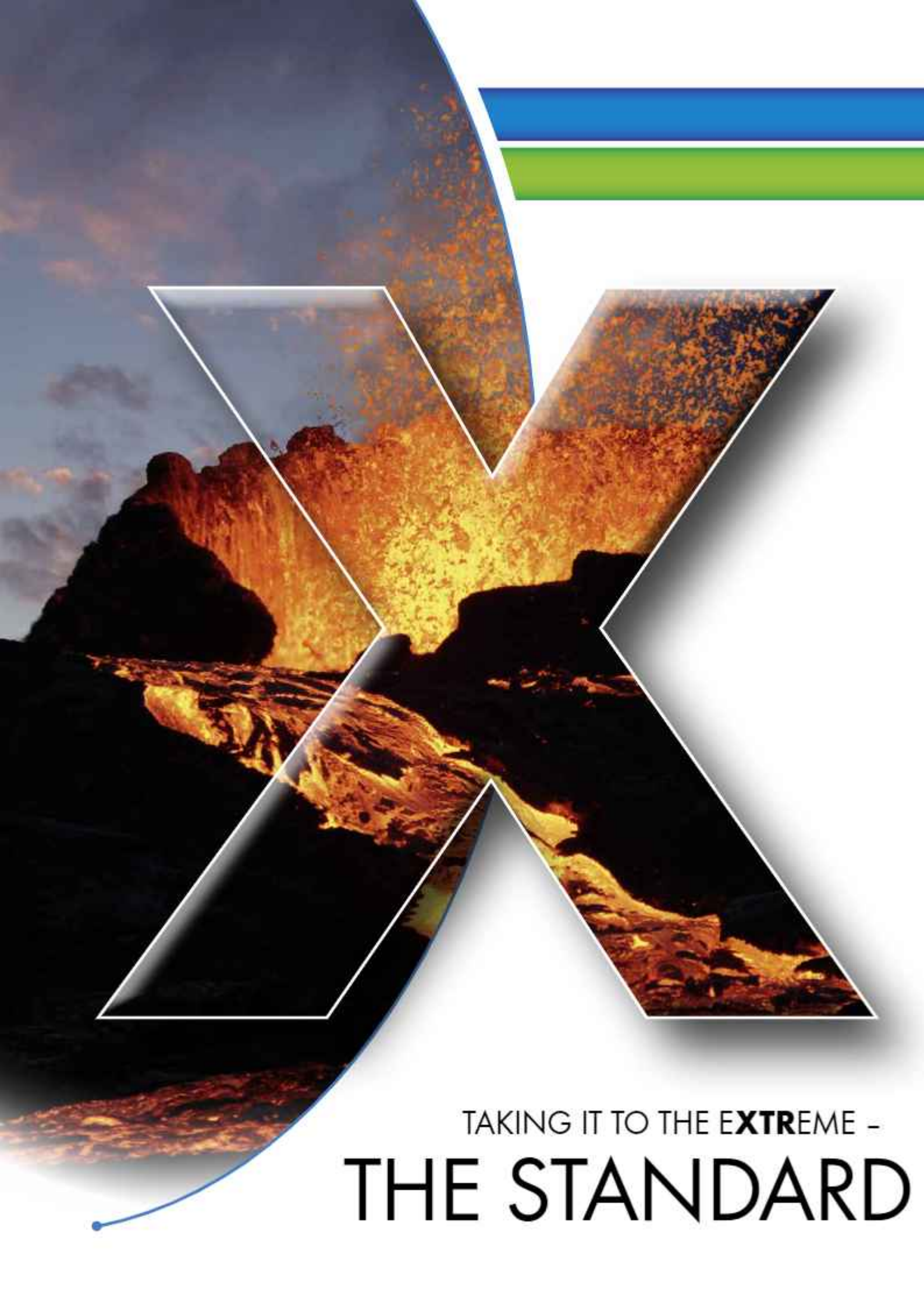
- Fine modularity
- Large variety of components
- Compact modules can accommodate up to 16 channels in a 12 mm (1/2") wide housing
- CAGE CLAMP® connection technology

The WAGO-I/O-SYSTEM 750 XTR is easily recognizable by its dark-gray modules. Benefit from the unique added value provided by this system in extreme environment applications:

- Lower space requirements
- Lower purchase costs
- Lower energy costs
- Lower maintenance costs
- Safe investment
- Maximum system availability
- Greater productivity

The WAGO-I/O-SYSTEM 750 XTR features outstanding characteristics: It is extremely weather-resistant, immune to interferences, as well as voltage- and vibration-proof. This is what makes 750 XTR the first choice for demanding applications:

- Shipbuilding and onshore/offshore industry
- Renewable energy systems (wind power, photovoltaic and biogas plants)
- Secondary substations and power distribution systems
- Petrochemical industry
- Water and wastewater industry
- Custom machine engineering



TAKING IT TO THE **EXTREME** -
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eXTReme temperature

from -40°C to $+70^{\circ}\text{C}$

Great reliability in extreme climates

Automation systems are being increasingly used where components are almost directly affected by extreme outside temperature variations, e.g., in wind power systems or secondary substations being subjected to highly variable weather conditions.

Regardless of freezing cold, extreme heat or high humidity - the WAGO-I/O-SYSTEM 750 XTR operates reliably under all possible conditions.

The XTR variant of the WAGO-I/O-SYSTEM 750 remains unaffected by both freezing cold down to -40°C and scorching heat up to $+70^{\circ}\text{C}$. And this applies equally for both start-up and ongoing operation.

The maximum approved **operating altitude of 5,000 m** is another highlight. Even in the rarefied air of a top station, the system impressively demonstrates its high performance and availability.

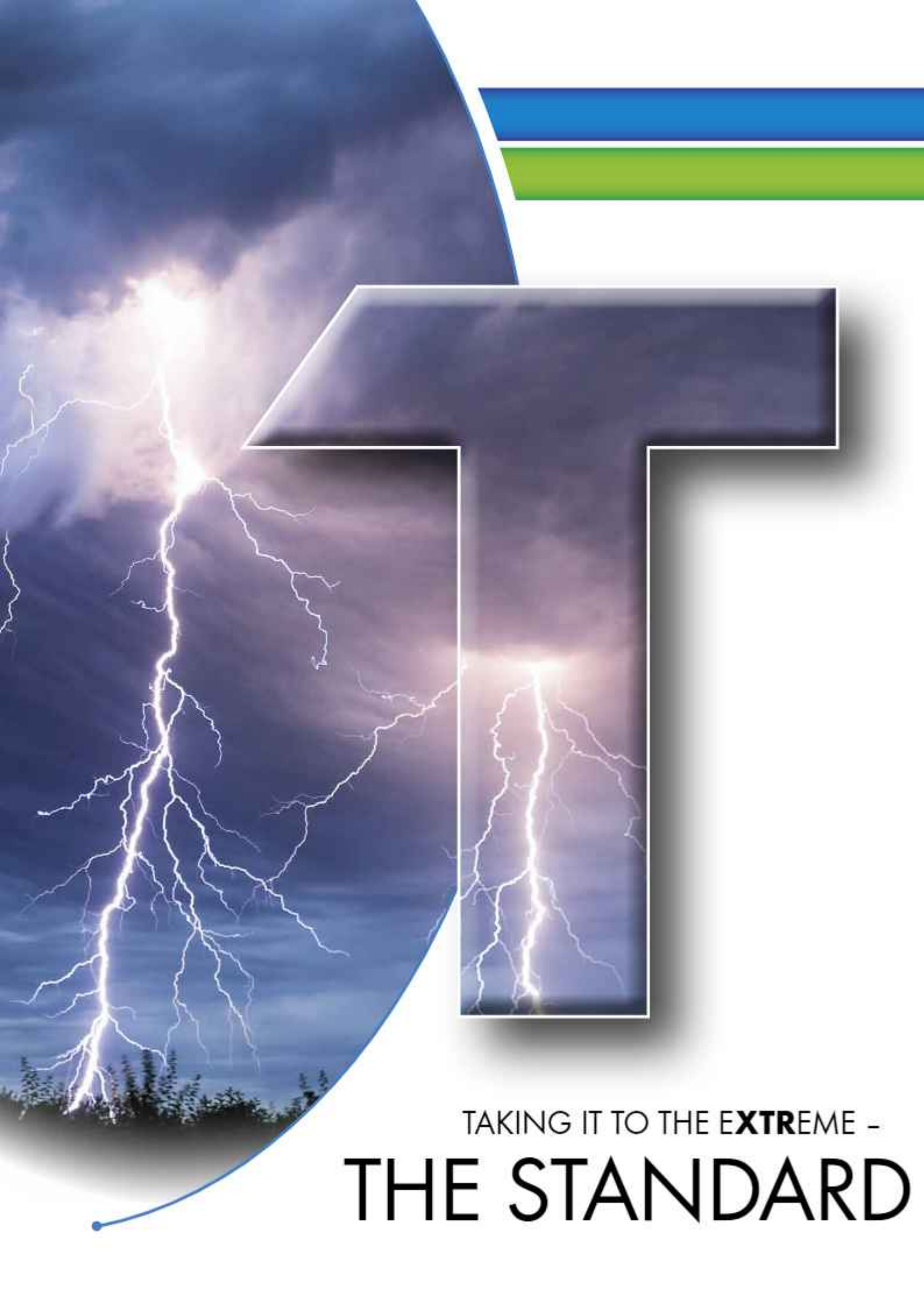
With the compact WAGO-I/O-SYSTEM 750 XTR, you not only need less space, but you also save substantial energy and maintenance costs. Additional air-conditioning components like heating and cooling are not necessary.

This provides you four types of benefits: No configuration, purchase, follow-up costs and extra air-conditioning are required.

- No air conditioning required
- Reduced space requirements
- Lower energy and maintenance costs



FOR 750 XTR



TAKING IT TO THE **EXTREME** -
THE STANDARD

eXTReme insulation and protection

up to 5 kV impulse voltage

DIN EN 60870-2-1

Additional protection against interference pulses

In production facilities, the focus is increasingly on high productivity. The demands on automation systems are correspondingly high.

The WAGO-I/O-SYSTEM 750 XTR provides higher **insulation up to 5 kV impulse voltage**, lower EMC emission of interference and higher insensitivity against EMC interference. This guarantees a trouble-free operation.

Within your application, the 750 XTR Series allows you to communicate directly with other parts of the system, without interference from other components or negative impact. This guarantees successful communication!

The WAGO-I/O-SYSTEM 750 XTR is also an ideal solution for telecontrol applications.

For two good reasons:

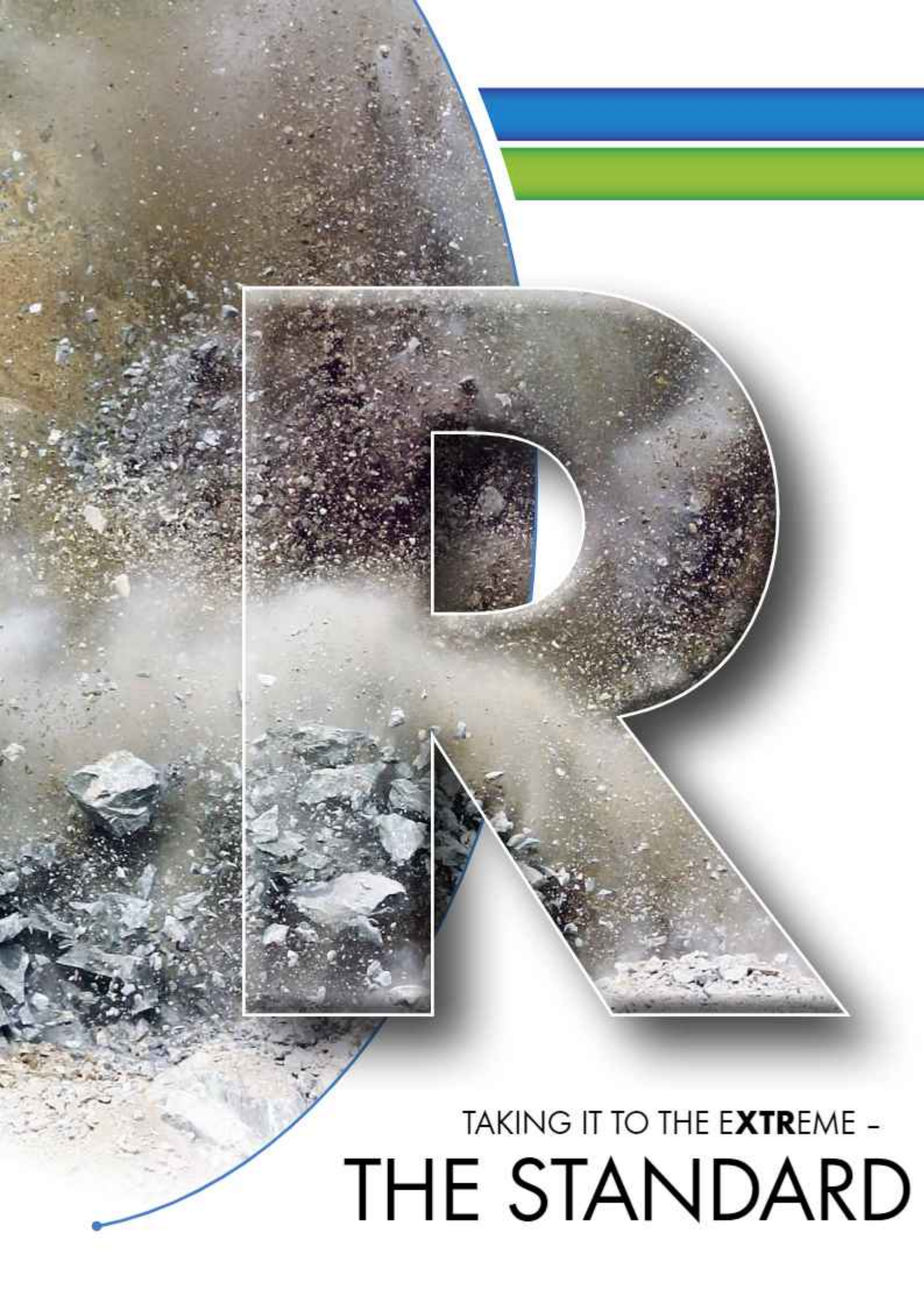
The 750 XTR Series Telecontroller speaks the right languages (**telecontrol protocols acc. to IEC 60870-5-101/-103/-104, IEC 61850, IEC 61400-25, MODBUS**). Furthermore, the increased **EN 60870-2-1** impulse voltage withstand requirements are fully met.

The result is a tailor-made solution for demanding telecontrol applications, which can best meet all requirements.

- Can be used in unshielded areas
- Suitable for standard telecontrol equipment
- Increased system availability



FOR 750 XTR



TAKING IT TO THE **EXTREME** -

THE STANDARD

eXTReme vibration

up to 5g acceleration

DIN EN 60068-2-6

High mechanical performance

Automation systems must be particularly vibration-resistant, especially when used in close proximity to vibrating or shock-generating system components. Powerful motors and power circuit breakers are only two examples from many.

The WAGO-I/O-SYSTEM 750 XTR is also setting new standards here: With a **vibration resistance of 5g** per DIN EN 60068-2-6 (acceleration: 50 m/s^2) and a **shock resistance of 15g** (150 m/s^2) per IEC 60068-2-27 or **25g** (250 m/s^2) per IEC 60068-2-29 the system can really take a lot.

A long-lasting, trouble-free operation can be guaranteed even in the harshest working environments (e.g., tunnel boring machine) – including safety reserve!

The extreme robustness of the 750 XTR Series pays off twice, maximizing both system availability and investment security – not to mention that it will save you time and spare your nerves.

- Application close to vibrating and shock-generating system components
- Increased system availability
- Investment security



FOR 750 XTR

General Technical Data

Approvals, Standards and Guidelines

For WAGO, only the highest quality is good enough!

This is why the development of all WAGO components is supported by our own accredited test lab with test criteria going far beyond legal specifications. This ensures that all relevant standards, guidelines and international approval requirements are met by the 750 XTR Series.

General Technical Data

Insulation withstand voltages (EN 60870-2-1):

- 24 V: 0.5 kVAC/775 VDC
1.0 kV impulse voltage (VW1)
- 230 V: 2.5 kVAC/3.5 VDC
5.0 kV impulse voltage (VW3)

Temperature

- Ambient operating temperature:
-40°C ... +70°C
- Storage temperature:
-40°C ... +85°C

Condensation

- Short-term condensation acc. to class
3K7 / IEC EN 60721-3-3 (except wind-driven precipitation and ice formation)

Vibration

- 5g acc. to EN 60068-2-6

Mixed operation

Mixed operation (standard/XTR modules) within a node is possible when groups of modules are electrically isolated on the field side (i.e., electrically isolated power supply).

Interference-free

All digital outputs are interference-free for safety function applications.

Approvals

- CE
- UL508 (pending)
- Shipbuilding (pending)
- Application in Zone 2/22 hazardous areas (pending)



Standards and Regulations

Mechanical stability

Vibration resistance:

- IEC 60068-2-6 (5g acceleration)
- EN 60870-2-2
- EN 61131-2
- IEC 60721-3-1
- IEC 60721-3-3

Shock resistance:

- IEC 60068-2-27 (15g/11 ms/half-sine)
- IEC 60068-2-29 (25g/6 ms/1,000 shocks)

EMC

Immunity to interference:

- EN 61000-6-1
- EN 61000-6-2
- EN 61131-2
- Shipbuilding
- EN 50121-3-2
- EN 50121-4
- EN 50121-5
- EN 60255-26
- EN 60870-2-1
- EN 61850-3
- IEC 61000-6-5
- IEEE 1613
- VDEW: 1994

Emission of interference:

- EN 61000-6-3 and EN 61000-6-4
- EN 61131-2
- EN 60255-26
- Shipbuilding
- EN 60870-2-1
(industrial + residential environment)
- EN 61850-3
(industrial + residential environment)
- EN 50121-3-2
- EN 50121-4
- EN 50121-5

WAGO-I/O-SYSTEM 750 XTR Overview

Programmable Fieldbus Controllers

750-880/040-000	ETHERNET Controller /XTR
750-880/040-001	ETHERNET Telecontroller /XTR
750-838/040-000*	CANopen Contr. 640/832KB DSUB /XTR

Fieldbus Coupler

750-352/040-000	ETHERNET Coupler /XTR
750-333/040-000*	PROFIBUS Coupler DP/V1 /XTR
750-338/040-000*	CANopen Coupler DSUB /XTR

Digital Inputs and Outputs

750-1405/040-000	16 DI 24 VDC 3.0 ms /XTR
750-1415/040-000	8 DI 24 VDC 3.0 ms/2-wire /XTR
750-508/040-000	2 DO 24 VDC 2.0 A/Diagnostics /XTR
750-1515/040-000	8 DO 24 VDC 0.5 A/2-wire /XTR
750-407/040-000	2 DI 220 VDC 3.0 ms /XTR
750-517/040-000	2 DO 230 VAC 1.0 A/Relay 2CO /XTR

Analog Inputs and Outputs

750-468/040-000	4 AI 0-10 VDC S.E. /XTR
750-457/040-000	4 AI ± 10 VDC S.E. /XTR
750-453/040-000	4 AI 0-20 mA S.E. /XTR
750-455/040-000	4 AI 4-20 mA S.E. /XTR
750-464/040-000	2/4 AI RTD configurable /XTR
750-469/040-000	2 AI Thermocouple configurable /XTR
750-559/040-000*	4 AO 0-10 VDC /XTR
750-557/040-000*	4 AO ± 10 VDC /XTR
750-563/040-000	2 AO 0/4-20 mA/6-18 VDC/16 Bit /XTR

Communication, Supply and Segment Modules

750-652/040-000	Serial Interface RS-232/RS-485 /XTR
750-602/040-000	24 VDC Power Supply /XTR
750-624/040-001	24 VDC Field Supply Filter/HI /XTR
750-613/040-000	24 VDC Power Supply (Bus) /XTR
750-626/040-000	24 VDC Supply Filter (Surge)/HI /XTR
750-612/040-000	0-230 V AC/DC Power Supply /XTR
750-1605/040-000	Potential Multiplication 16+ /XTR
750-1606/040-000	Potential Multiplication 16- /XTR
750-600/040-000	End Module /XTR

* Available: April 2014



750-880/040-000



750-1405/040-000



750-457/040-000



750-652/040-000



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