

## Housing

Color	RAL 7035 (light-gray)
Dimensions	See Dimensions
Weight DXR2.M11.. DXR2.M12P.. DXR2.M18.. Terminal cover Packaging	ca. 330 g ca. 340 g ca. 360 g ca. 80 g ca. 40 g

## Function data

Processor	Texas Instruments AM3352, 300 MHz
RAM	128 MByte SDRAM (DDR3) 512 MByte NAND Flash
Communication A/D Resolution (analog in) D/A Resolution (analog out)	14 Bit 12 Bit

## Power data

Power supply	
Operating voltage	AC 24 V -15%/+20%
Frequency	50/60 Hz
Power consumption including connected field devices DXR2.M11.. DXR2.M12P.. DXR2.M18..	Max. 58 VA Max. 58 VA Max. 70 VA
Internal fuse	4 A irreversible
Transformer with secondary current limitation of max. 10 A or external secondary current fuse Non-renewable fuse Circuit breakers	Max. 10 A, slow Max. 13 A, characteristic B, C, D as per EN 60898

Apparent power (VA) for transformer design						
	Base load including I/O without load by field devices	Max. output load Triac at 250 mA each	Max. load for AC 24 V field supply at 500/700 mA	Max. load KNX PL-Link at 50 mA	Max. load for DC 24 V field supply at 100 mA	Power consumption including connected field devices
DXR2.M11..	6	6 x 6 = 36 (72 with PWM *)	12	4	-	58 (94 with PWM *)
DXR2.M12P..	6	6 x 6 = 36 (72 with PWM *)	12	4	-	58 (94 with PWM *)
DXR2.M18..	6	8 x 6 = 48 (88 with PWM *)	18	4	6	70 (96 with PWM *)

\*) For thermal valve actuators (starting current) with pulse width modulation 5...50% and pulse length of ca. 1 s.

Power for the Triac outputs must be reduced if the max. load of 18 VA is required for AC 24 V field supply on the DXR2.x18...

The inputs are protected against incorrect wiring AC 24 V.

Inputs: Overview	
Type	Inputs
DXR2.M11..	1 DI, 2 UI
DXR2.M12P..	1 DI, 2 UI, ΔP sensor
DXR2.M18..	2 DI, 4 UI

Resistance sensor, analog (inputs X...)		
Type	Range (over range)	Resolution
AI 1000 Ohm *)	1 kΩ (0...1.05 kΩ)	1 Ω
AI 2500 Ohm *)	2.5 kΩ (0...2.625 kΩ)	2.5 Ω
AI 10 kOhm *)	10 kΩ (0...10.5 kΩ)	10 Ω
AI 100 kOhm *)	100 kΩ (0...105 kΩ)	100 Ω

Temperature measurement, analog (inputs X...)		
Type	Range (over range)	Resolution
AI PT1K 375 (NA) *)	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	25 mK 0.045 °F
AI PT1K 385 (EU) *)	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	25 mK 0.045 °F
AI (LG-)Ni1000 *)	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	25 mK 0.045 °F
AI Ni1000 DIN *)	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	25 mK 0.045 °F
AI T1 (PTC) *)	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	100 mK 0.18 °F
AI NTC10K	-40...70 °C (-45...75 °C) -40...158 °F (-49...167 °F)	25 mK (25 °C) 0.045 °F (77 °F)
AI NTC100K	-10...70 °C (-15...75 °C) 14...158 °F (5...167 °F)	25 mK (25 °C) 0.045 °F (77 °F)

\*) A fixed value of 1 Ω is calibrated to correct line resistance.

Voltage measurement, analog (inputs X...)		
Type	Range (over range)	Resolution
AI 0...10 V	0...10 V (-1...11 V)	2 mV
AI 0...10 V standard	0...100% (-10...110%)	2 mV
Open connection: Negative voltage -1.5 V, 8 μA (line failure detection)		

Digital input (inputs X... or D...)	
Contact query voltage	Universal input: 18 V Digital input: 21 V
Contact query current	Universal input: 1.2 mA, 7.4 mA initial current Digital input: 1.6 mA; 9.4 mA initial current
Contact resistance for closed contacts	Max. 100 Ω
Contact resistance for open contacts	Min. 50 kΩ

Differential pressure sensor (inputs P1+, P1-)	
Connections (nipple diameter)	5.2 mm
Measuring range	0...500 Pa
Overload range	0...100 kPa
Measuring range accuracy	4.5%
Zero point accuracy	0.2 Pa
Resolution	12 Bit

## Outputs

The outputs are protected against short circuiting and incorrect wiring AC 24 V.

Outputs: Overview	
Type	Outputs
DXR2.M11..	6 Triacs, 2 AO
DXR2.M12P..	6 Triacs, 2 AO
DXR2.M18..	8 Triacs, 4 AO

Analog (outputs Y10...Y40)			
Type	Range (over range)	Resolution	Output current
AO 0-10 V	0...10 V (0...10.5 V)	2 mV	Max. 1 mA
AO 0-10 V standard	0...100% 0% = 0 V, 100% = 10 V (0...10.5 V)	2 mV	Max. 1 mA

Switching outputs Triac (outputs Y1...Y8)	
Type	High side The Triac closes the contact to AC 24 V
Switching voltage	AC 24 V
Permissible load	250 mA / 6 VA per output (cos phi 0.35) (500 mA / 12 VA per output with PWM *)
Protection	Short-circuit proof

\*) For thermal valve actuators (starting current) with pulse width modulation 5...50% and pulse length of ca. 1 s.

Supply for field devices (outputs V~)	
Output voltage	AC 24 V
Permissible load DXR2.x11.. und DXR2.x12P.. DXR2.x18..	500 mA / 12 VA overall 750 mA / 18 VA overall
Protection against overload	Short-circuit proof

Power supply for field devices on DXR2.x18 (output V+)	
Output voltage	DC 24 V
Permissible load	100 mA/2.4 W
Protection against overload	Short-circuit proof

## Connections

Interfaces	
MS/TP	Interface type: RS485 Galvanic isolation: Yes Baud rates: 9600, 19200, 38400, 57600, 115200 Protocol: BACnet over MS/TP Short-circuit proof Protection against faulty wiring at max. AC 24 V
USB (2.0)	Plug: Type B Data rate: 12 Mbps
KNX	Type: KNX TP1 PL-Link, galvanic isolation Baud rate: 9.6 kbps Bus power: 50 mA Short-circuit proof Protection against faulty wiring at max. AC 24 V

Wiring connections	
Pluggable screw terminals	Copper wire or copper stranded wire with connector sleeves 1 x 0.6 mm $\varnothing$ to 2.5 mm <sup>2</sup> (22 to 14 AWG) or 2 x 0.6 mm $\varnothing$ to 1 mm <sup>2</sup> (22 to 18 AWG) Copper stranded wire without connector sleeves 1 x 0.6 mm $\varnothing$ to 2.5 mm <sup>2</sup> (22 to 14 AWG) or 2 x 0.6 mm $\varnothing$ to 1.5 mm <sup>2</sup> (22 to 16 AWG)
Stripping length	6...7.5 mm (0.24...0.29 in)
Slotted screws	Size 1, tightening torque 0.6 Nm (0.44 lb-ft)
Wiring lengths for signals	KNX PL-Link 80 m (260 ft) with internal bus power or 300 m (990 ft) with external power supply MS/TP 1,000 m (3,290 ft) Signal lines 80 m (260 ft) For inputs AI 100 k $\Omega$ , AI NTC10K, AI NTC100K: 30 m (100 ft) or 80 m (260 ft), if shielded.

## Conformity

Ambient conditions and protection classification	
Classification per IEC/EN 60730 Function of automatic control devices Pollution degree Overvoltage category	Type 1 2 III
Design type	Device suited for use with equipment of safety classes I and II
Degree of protection of housing to IEC EN 60529 Room automation station With terminal cover	IP20 IP30
Climatic ambient conditions <ul style="list-style-type: none"> <li>Transport (packaged for transport) as per IEC EN 60721-3-2</li> <li>Operation as per IEC/EN 60721-3-3</li> </ul>	<ul style="list-style-type: none"> <li>Class 2K3 Temperature -25...70 °C (-13... 158 °F) Air humidity 5...95% (non-condensing)</li> <li>Class 3K5 Temperature -5...45 °C (23... 113 °F)/ -5...50 °C (23... 122 °F) See Mounting Air humidity 5...95% (non-condensing)</li> </ul>
Mechanical ambient conditions Transport as per IEC/EN 60721-3-2 Operation as per IEC/EN 60721-3-3	Class 2M2 Class 3M2