

1211e	Product Information	thermokon [®] asia pacific
CDI4- Series (H&T)	Duct Humidity and Temperature Active Sensor	



The CDI4-Series (H&T) is designed to measure relative humidity and temperature in air ducts of heating, ventilation and air-conditioning systems. The humidity sensor output is active, the temperature sensor output can be active or passive.

Use	<p>Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System</p> <p>Relative humidity and temperature measurement in air ducts</p> <p>Used in all common HVAC applications</p> <p>Used in Commercial and Industrial Buildings</p>
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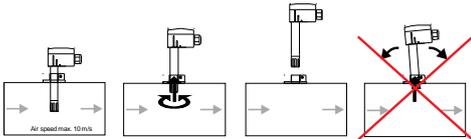
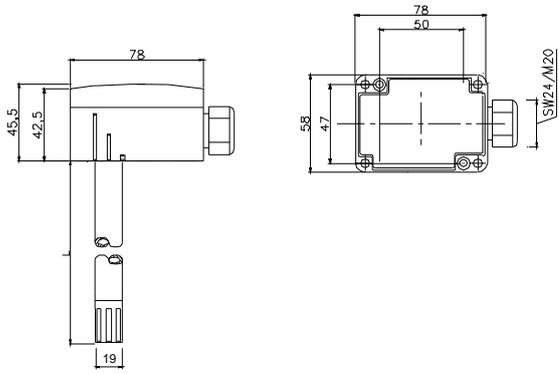
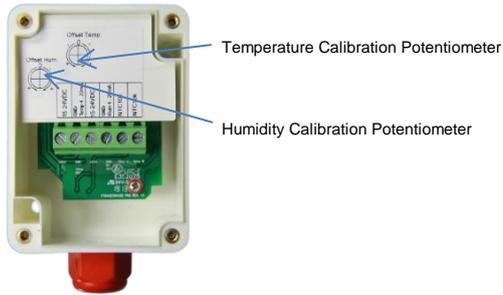
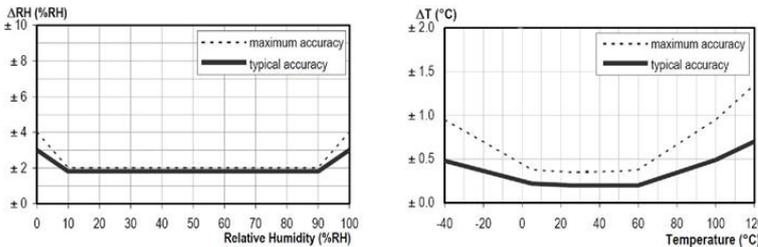
Features	<p>Sensor with active and passive outputs (optional)</p> <p>Different immersion lengths for all common air duct sizes</p> <p>Professional and practical product design, withstands rough environmental conditions</p> <p>Easy to use, install and maintain</p>
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Product Range		Sensor Output								Immersion			
		Temperature						Humidity		Length			
	Model	PT100	PT1000	NTC10k	NTC10k Pre	NTC20k	Ni1000	0-10V	4-20mA	0-10V	4-20mA	140mm	270mm
	CDI4.AA						•		•		•		
	CDI4.AJ	•					•		•		•		
	CDI4.AK		•				•		•		•		
	CDI4.AM			•			•		•		•		
	CDI4.AO				•		•		•		•		
	CDI4.AN					•	•		•		•		
	CDI4.AL						•	•	•		•		
	CDI4.AD							•		•	•		
	CDI4.AP	•						•		•	•		
	CDI4.AQ		•					•		•	•		
	CDI4.AS			•				•		•	•		
	CDI4.AV				•			•		•	•		
	CDI4.AT					•		•		•	•		
	CDI4.AR						•	•		•	•		
	CDI4.BA						•		•		•	•	
	CDI4.BJ	•					•		•		•	•	
	CDI4.BK		•				•		•		•	•	
	CDI4.BM			•			•		•		•	•	
	CDI4.BO				•		•		•		•	•	
	CDI4.BN					•	•		•		•	•	
	CDI4.BL						•	•	•		•	•	
	CDI4.BD							•		•	•	•	
	CDI4.BP	•						•		•	•	•	
	CDI4.BQ		•					•		•	•	•	
	CDI4.BS			•				•		•	•	•	
	CDI4.BV				•			•		•	•	•	
	CDI4.BT					•		•		•	•	•	
	CDI4.BR						•	•		•	•	•	

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Sensor Specification	Sensor Specification	<p>Measured</p> <p>Sensor Characteristics</p> <p>Sensor Output (s)</p> <p>Output Load</p> <p>Type CDI4.AJ/AK/AM/AO/AN/AL/AA/BJ/BK/BM/BO/BN/BL/BA</p> <p>Type CDI4.AP/AQ/AS/AV/AT/AR/AD/BP/BQ/BS/BV/BT/BR/BD</p> <p>Measuring Current</p> <p>Accuracy</p> <p>Type CDI4.AJ/AK/AP/AQ/BJ/BK/BP/BQ</p> <p>Type CDI4.AM/AO/AN/AS/AV/AT/BM/BO/BN/BS/BV/BT</p> <p>Type CDI4.AL/AR/BL/BR</p> <p>Type CDI4.AA/AD/BA/BD</p> <p>Repeatability</p> <p>Long Term Drift</p> <p>Measuring Range (s)</p>	<p>Temperature & Humidity</p> <p>Passive; Active</p> <p>See Product Range, Page 1</p> <p>Min. load 5kΩ @ AC/DC 24V</p> <p>Max. load 500Ω @ DC 24V</p> <p><1mA</p> <p>± 0.8°C between -20°C..80°C ; ± 0.3K @ 0°C, class B ; ± 2% between 10...90% r.h.</p> <p>± 0.8°C between -20°C..80°C ; ± 0.5K @ 25°C ; ± 2% between 10...90% r.h.</p> <p>± 0.8°C between -20°C..80°C ; ± 0.4K @ 0°C ; ± 2% within 10...90% r.h.</p> <p>± 0.8°C between -20°C..80°C ; ± 2% within 10-90% r.h.</p> <p>±0.1C ; ±0.1% r.h.</p> <p>< 0.04C / year ; < 0.5% r.h. / year</p> <p>-20°C...80°C Active / -40°C...150°C Passive / 0...100% r.h.</p>																																																
	Technical Information	Electrical Information	<p>Power Supply</p> <p>Type CDI4.AJ/AK/AM/AO/AN/AL/AA/BJ/BK/BM/BO/BN/BL/BA</p> <p>Type CDI4.AP/AQ/AS/AV/AT/AR/AD/BP/BQ/BS/BV/BT/BR/BD</p> <p>Frequency</p> <p>Terminal Clamp</p> <p>Power Consumption</p> <p>Type CDI4.AJ/AK/AM/AO/AN/AL/AA/BJ/BK/BM/BO/BN/BL/BA</p> <p>Type CDI4.AP/AQ/AS/AV/AT/AR/AD/BP/BQ/BS/BV/BT/BR/BD</p>	<p>DC 15-24V (±10%) or AC 24V (±10%)</p> <p>DC 15-24V (±10%)</p> <p>50 / 60 Hz at AC 24V</p> <p>Screw terminal, max. 1.5mm²</p> <p>≤ 0.5W / AC 24V; ≤ 1.7VA / DC 24V</p> <p>≤ 40mA / DC 24V</p>																																															
Mechanical Information		<p>Immersion Rod Diameter</p> <p>Immersion Rod Length</p> <p>Cable Entry</p> <p>Sensing Element Position</p>	<p>Ø19mm</p> <p>See Product Range, Page 1</p> <p>M16, Ø6...Ø8mm cables</p> <p>external, top of the immersion rod</p>																																																
Connection	User Interface	<p>Temperature Recalibration</p> <p>Humidity Recalibration</p>	<p>±3K</p> <p>±4% r.h.</p>																																																
	Color and Materials	<p>Housing Cover</p> <p>Housing Bottom</p> <p>Lock Screws</p> <p>Cable Gland</p> <p>Gland Rubber Seal</p> <p>Immersion Rod</p> <p>Filter</p>	<p>White PA6, RAL9001 (Cream White)</p> <p>White PA6, RAL9001 (Cream White)</p> <p>Zinc ZLO410, Fast Connectors 90°</p> <p>White PA6, RAL9001 (Cream White)</p> <p>White TBS, RAL9010 (Pure White)</p> <p>Black PVC, RAL 9017 (Traffic Black)</p> <p>US:AISI 304; EU:EN X 6 CrNi 18 10; GER: W.N. 1.301, Stainless Steel</p>																																																
Miscellanies	Environmental Conditions	<p>Operation Temperature</p> <p>Operation Humidity</p> <p>Transport Temperature</p> <p>Transport Humidity</p> <p>Storage Temperature</p> <p>Storage Humidity</p>	<p>-25°C...+70°C</p> <p>100% r.h., with condensation</p> <p>-35°C...+70°C</p> <p>< 90% r.h.</p> <p>-10°C...+70°C</p> <p>< 85% r.h., no condensation</p>																																																
	Norms and Directives	<p>IP- Rating</p> <p>Safety Class</p> <p>Product Standard 1</p> <p>Product Standard 2</p> <p>CE Conformities to</p> <p>CE Electromagnetic Compatibility Emitted Interference</p> <p>CE Electromagnetic Compatibility Interference resistance</p> <p>RoHS Compatibility</p> <p>Operation Climatic Condition</p> <p>Operation Mechanical Condition</p> <p>Transport to Climatic Condition</p> <p>Transport Mechanical Condition</p> <p>Storage Climatic Condition</p> <p>Storage Mechanical Condition</p>	<p>IP65 to IEC60529</p> <p>III to EN 60 730</p> <p>Automatic Electric. Controls for household and similar use</p> <p>2009/EN 60 730-1</p> <p>2004/108/EG Electromagnetic Compatibility EMV</p> <p>2000/EN60730-1 Emitted Interference</p> <p>2000/EN60730-1 Interference Resistance</p> <p>RoHS 2011/65/EC</p> <p>IEC 60 721-3-3</p> <p>IEC 60 721-3-2 to class2M2</p> <p>IEC 60 721-3-2</p> <p>IEC 60 721-3-2 to class2M2</p> <p>IEC 60 721-3-1</p> <p>IEC 60 721-3-1 to class2M2</p>																																																
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Accessories	Mounting Kit, included in delivery	Duct Mounting Kit, HDK0.A																																																	
Shipping & Handling	Minimum Order	1 box with 2 pieces, multiple of 2 pieces																																																	
	Product Dimension (L x W x H) / Weight	186mm x 85mm x 50mm / 102gr. 316mm x 85mm x 50mm / 152gr.																																																	
Order Notes	Transport and Storage dimension (L x W x H) / -Weight	195mm x 95mm x 65mm / 270gr. 330mm x 95mm x 65mm / 405gr.																																																	
	Packaging Material	Rigid Cardboards Packaging																																																	
Order Code	Order Code	See Product Range, Page 1, e.g. CDI4.AJ																																																	

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Advices	<p>Security Advice</p>  <p>The installation and assembly of electrical equipment may only be performed by a skilled electrician.</p> <p>The products must not be used in any relation with equipment that supports, directly or indirectly, human health, life or with applications that can result in danger of people, animals or real values.</p>
	<p>Mounting Advices</p>  <p>The sensor can be mounted on the air duct by a mounting flange or by screws.</p> <p>For risk of condensate permeation in the sensor tube respectively in the immersion pocket, the sensor must be installed that occurred condensate can run off.</p> 
	<p>Installation Notes</p>  <p>The product must be installed at a suitable place and within the range of validity of the local electrical installation laws and regulations.</p> <p>Due to the self-heating, the wire current should not exceed 1mA.</p> <p>Due to air circulations dirt and dust particles can be piled up in the course of time on the sintered filter which is protecting the sensor. The filter can be cleaned by blowing it out with oil-free and filtered compressed air, super-clean air or nitrogen or by washing it out with distilled water.</p>
	<p>Commissioning Notes</p>  <p>Sensing devices with transducers should in principle be operated in the middle of the measuring range.</p> <p>The ambient temperature of the transducer electronics should be kept constant.</p> <p>When switching the supply voltage on/off, power surges must be avoided on site.</p> <p>With normal environmental conditions we recommend a recalibration interval of around 1 year to maintain the indicated accuracy.</p> <p>Refrain from touching the sensitive sensor. Any touch of the same will result in an expiration of the warranty.</p> <p>At high ambient temperatures and high humidity, or when use the sensor in aggressive gases, an early recalibration or a change of the sensor can become necessarily.</p> <p>Such a recalibration or a probable sensor change may not come under the general warranty.</p>
Dimensional Drawing	
Calibration diagram	
Accuracy Curves	 <p style="text-align: right;">Active Sensor Output</p>

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