



CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters

Installation Instructions

CD-W00-00-2, CD-W00-N0-2

Part No. 24-10864-11, Rev. B

Issued March 2016

Refer to the [QuickLIT website](#) for the most up-to-date version of this document.

North American Emissions Compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case users will be required to correct the interference at their own expense.

Canada

This Class (A) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Installation

IMPORTANT: The CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters are intended to provide an input to equipment under normal operating conditions. Where failure or malfunction of the transmitter could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the transmitter.

IMPORTANT : Le CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters est destiné à transmettre des données entrantes à un équipement dans des conditions normales de fonctionnement. Lorsqu'une défaillance ou un dysfonctionnement du CD-W00-x0-2 Series Wall Mount CO₂ Transmitters risque de provoquer des blessures ou d'endommager l'équipement contrôlé ou un autre équipement, la conception du système de contrôle doit intégrer des dispositifs de protection supplémentaires. Veiller dans ce cas à intégrer de façon permanente d'autres dispositifs, tels que des systèmes de supervision ou d'alarme, ou des dispositifs de sécurité ou de limitation, ayant une fonction d'avertissement ou de protection en cas de défaillance ou de dysfonctionnement du CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters.



CAUTION: Risk of Electric Shock.

Disconnect the power supply before making electrical connections to avoid electric shock.

MISE EN GARDE : Risque de décharge électrique.

Débrancher l'alimentation avant de réaliser tout raccordement électrique afin d'éviter tout risque de décharge électrique.

CAUTION: Risk of Property Damage.

Do not apply power to the system before checking all wiring connections. Short circuited or improperly connected wires may result in permanent damage to the equipment.

MISE EN GARDE : Risque de dégâts matériels.

Ne pas mettre le système sous tension avant d'avoir vérifié tous les raccords de câblage. Des fils formant un court-circuit ou connectés de façon incorrecte risquent d'endommager irrémédiablement l'équipement.

CAUTION: Risk of Property Damage.

Do not run low voltage cable in the same conduit or wiring troughs with high voltage wires. Running low and high voltage wires in the same conduit or wiring troughs may damage the equipment or cause system malfunction.

MISE EN GARDE : Risque de dégâts matériels.

Ne pas faire courir un câble basse tension dans les mêmes gaines ou goulottes électriques que des câbles haute tension. L'installation de fils basse tension et haute tension dans les mêmes gaines ou goulottes électriques risque d'endommager l'équipement ou de provoquer des dysfonctionnements du système.

IMPORTANT: Use copper conductors only. Make all wiring in accordance with local, national, and regional regulations. Do not exceed the CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters electrical ratings. Exceeding transmitter electrical ratings can result in permanent damage to the transmitter and void any warranty.

IMPORTANT: When using multi-stranded wire cable, apply a cable ferrule to the cable end. If the distance between the sensor and the controller is over 3 meters (9.8 feet), use shielded cable. Connect the shield at the controller end of the cable.

Location Selection

When mounting wall model transmitters:

- Select a location that well represents the area of interest.
- Do not install the transmitter on the ceiling.
- Avoid placing the transmitter near heat and moisture sources, close to the discharge of the supply air ducts, and in direct sunlight.

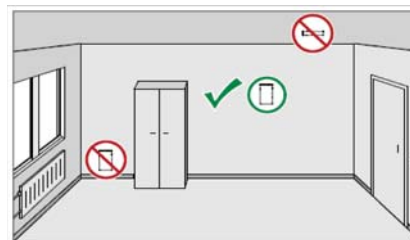


Figure 1: Location Selection

Installing the Mounting Base and Cable

1. Open the transmitter by pulling outward on the paper tab that holds the cover and mounting base together (Figure 2).

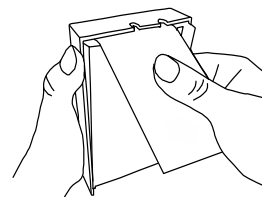


Figure 2: Pull Outward on the Paper Tab

2. Pull the mounting base away from the cover, starting from the top.
3. Pull out approximately 6 in. (152 mm) of wire from the wall and insert the wire through the hole in the mounting base.

Note: Route the cable through the hole in the mounting base if possible. You can also bring the cable to the housing from above or below, but you have to break off the small plastic tab that covers the hole on top or bottom of the mounting base.

Note: Do not route the cable through the area marked NO CABLES on the mounting base (Figure 3). That space is taken up by the CO₂ measurement module when the cover is attached.

4. Align the mounting base on the wall, and confirm that the arrow imprinted on the mounting base is pointing up (Figure 3).

IMPORTANT: Proper orientation is important. Air must flow through the vents on the bottom and the top.

5. Secure the mounting base to the wall, using at least two field-supplied screws (Figure 3).

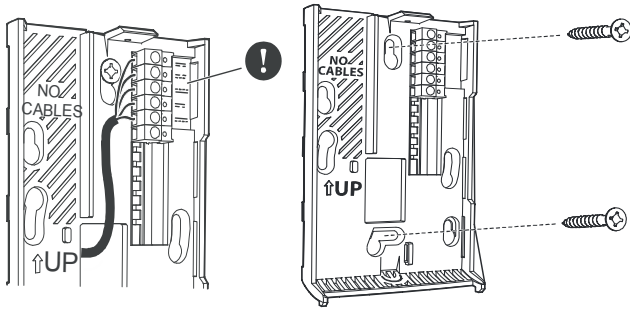


Figure 3: Route the Cable From Behind (Left) and Mount the Wall Plate (Right)

Note: When you bring the cable through the wall, seal the cable opening. If left unsealed, the hole allows air from outside the room into the transmitter and affects the measurement readings. For example, fresh concrete binds CO₂ and may cause low readings, especially in new buildings.

Connecting the Cable to the Mounting Base

Connect the wires from the cable to the screw terminals on the mounting base. The terminal assignments are marked next to the screw terminals. Maximum wire size is 2 mm² (AWG 14).

- Strip 1/4 in. (6.35 mm) of insulation from the ends of the power and output signal wires.

Note: To prevent a short circuit from occurring, make sure that the wires are stripped to the correct length and fully inserted into the terminal blocks. If using shielded cable, ensure that the shield is protected from contact with components on the top or bottom side of the printed circuit board. Failure to follow proper wiring procedures may cause the transmitter to fail.

- Connect the wires to the mounting base screw terminals as shown in Figure 4.

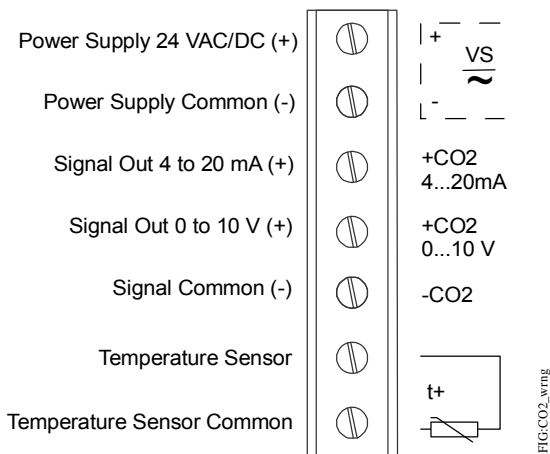


Figure 4: Screw Terminals

Note: The transmitter is capable of generating both voltage and current output. Each output has its own individual positive screw terminal.

Power Supply Requirements

The transmitter requires a 24 VAC/VDC, Class 2 power supply. Although the power input includes a halfwave rectifier, we recommend using a DC supply to avoid excessive current peaks.

Connections to a 24 VAC Power Supply

Connecting more than one transmitter to a single 24 VAC transformer forms a common loop and increases the risk of a short circuit. We recommend that you use a separate floating supply for each transmitter (see Figure 5).

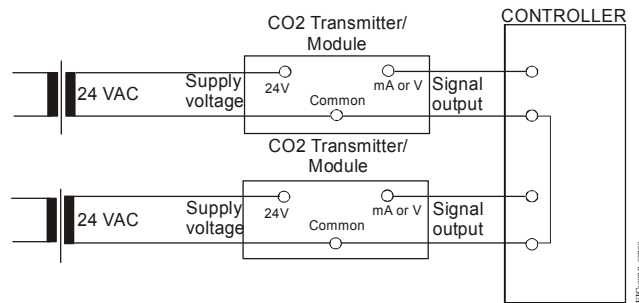


Figure 5: Connecting Separate AC Supplies (Recommended)

If several transmitters share a common transformer, always connect the transmitter common (-) to the same side of the transformer to maintain the polarity. A shared common line at the controller may cause a short circuit if the phase is not the same (Figure 6).

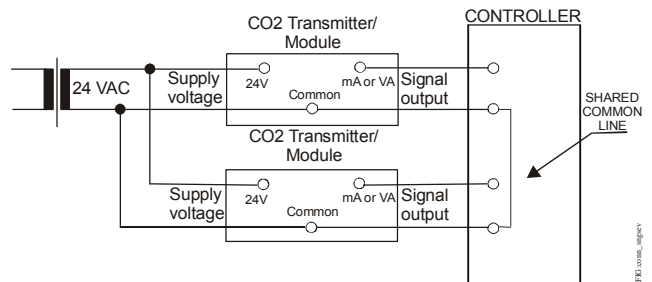


Figure 6: Connecting One AC Supply to Several Transmitters (Not Recommended)

Completing the Installation

Install the cover on the mounting base:

- Slide the bottom of the cover onto the tabs at the bottom of the mounting base.
- Tilt the top of the cover toward the mounting base.

- Insert the locking screw on the top of the transmitter and secure the locking screw with a #1 Phillips-Head screwdriver.

If power is supplied to the screw terminals, the transmitter starts when you close the cover.

Setup and Adjustments

Commissioning

CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters come from the factory calibrated for the following:

- output signal (0 to 10 V and 4 to 20 mA) proportional to CO₂ concentration (0 to 2,000 parts per million [ppm])

- altitude range of 0 to 2,000 ft (0 to 600 m) without compensation

For altitudes above 2,000 ft (600 m) where optimum accuracy of the CO₂ concentration measurement is essential, modify the Building Automation System (BAS) controller's analog input (AI) high range to compensate for sensor placement at other than the standard calibration altitude.

To do this, reset the 2,000 ppm value using the controller's compensation factor (CF) shown in Figure 7 or Figure 8.

Calculate the corrected value:

$$\text{Corrected Value} = \text{CF} \times 2,000$$

For example, if the sensor is situated at an altitude of 3,000 ft (914.4 m) above sea level, the CF is 1.10 (see Figure 7 or Figure 8). The corrected value is:

$$\text{Corrected Value} = (1.10)(2,000 \text{ ppm}) = 2,200 \text{ ppm}$$

Note: For altitude compensation, only adjust the AI high range. The AI low range should remain at zero.

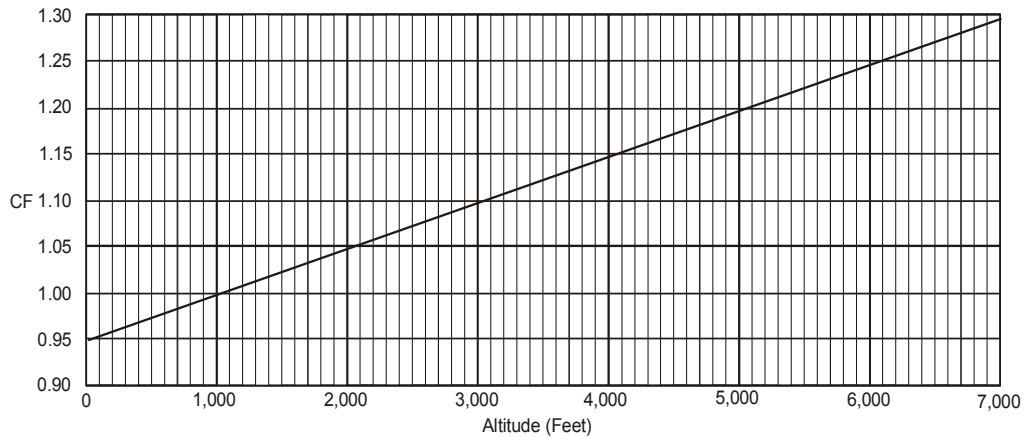


Figure 7: Altitude Compensation, Feet above Sea Level

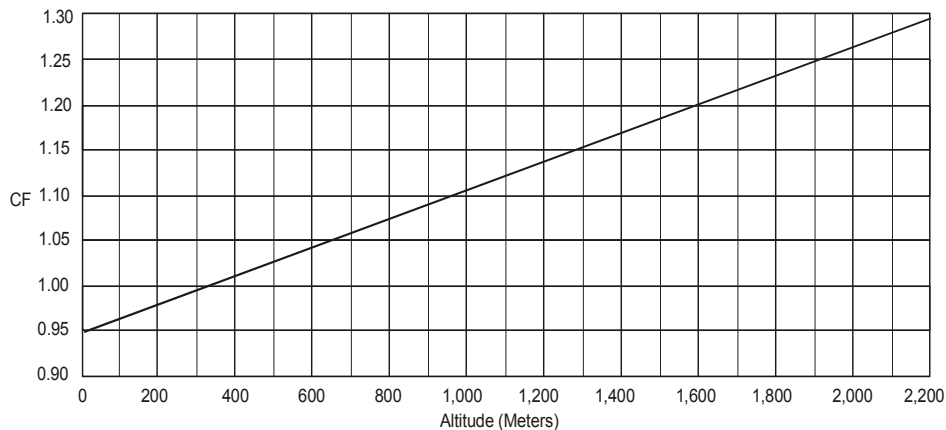


Figure 8: Altitude Compensation, Meters above Sea Level

Troubleshooting

The CO₂ transmitter is not field repairable. In the event the unit is not functioning properly, identify the symptoms and determine a solution:

1. Verify that the unit is mounted properly.
2. Verify that all wiring is correct.
3. Verify that the power supply voltage level is 20 to 30 VAC or 18 to 30 VDC.


If the CO₂ transmitter does not operate after completing these steps, replace the unit.

Repair Information

If the CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters fail to operate within their specifications, replace the units. For a replacement CO₂ transmitter, contact the nearest Johnson Controls® representative.

Technical Specifications

CD-W00-x0-2 Series Wall Mount CO₂ and Temperature Transmitters

CO₂ Measuring Range	0 to 2,000 ppm CO ₂	
CO₂ Accuracy Across Temperature Range	68 to 86°F (20 to 30°C): ±(30 ppm +3% of reading) 50 to 68°F (10 to 20°C), 86 to 104°F (30 to 40°C): ±(35 ppm +3.7% of reading) 32 to 50 °F (0 to 10°C), 104 to 122°F (40 to 50°C): ±(40 ppm +4.8% of reading)	
Long-Term Stability	±(15 ppm +2% of reading) over 5 years	
Response Time (0 to 63%)	1 minute	
Platinum Temperature Sensor	Temperature Sensor: 1,000 ohm, Class F0.15 IEC60751 (Class A), thin-film platinum Temperature Coefficient: Approximately 2 ohms per F° (3.9 ohms per C°) Reference Resistance: 1,000 ohms at 32°F (0°C) Accuracy: ±0.34F° at 70°F (±0.18C° at 21°C)	
Operating Temperature Range	32 to 122°F (0 to 50°C)	
Storage Temperature Range	-40 to 158°F (-40 to 70°C)	
Operating Humidity Range	0 to 95% RH (noncondensing), 86°F (30°C) maximum dew point	
Transmitter CO₂ Output Signal	4 to 20 mA and 0 to 10 VDC Maximum Output Current: 21 mA; Maximum Output Voltage: 11 V	
Resolution of Analog Outputs	0.3 ppm CO ₂	
Recommended External Load	Minimum 1,000 ohms load resistance for 0 to 10 V Maximum 600 ohm load resistance for 4 to 20 mA	
Power Supply Range	24 VAC ±20%, 50/60 Hz (18 to 30 VDC), Class 2	
Power Consumption	<1.0W Average, excluding current output consumption	
Current Consumption	100 mA Peak on AC power; 45 mA Peak on DC power	
Warm-Up Time	<1 minute <10 minutes for full specification	
Dimensions (H x W x D)	5 x 3-3/16 x 1-1/32 in. (127 x 81 x 26 mm)	
Shipping Weight	0.25 lb (114 g)	
Compliance 	United States	UL Listed, File E107041, CCN PAZX, UL 916, Energy Management Equipment, FCC Compliant to CFR 47, Part 15, Subpart B, Class A
	Europe	CE Mark - Johnson Controls, Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC directive.
	Canada	UL Listed, File E107041, CCN PAZX7, CAN/CSA C22.2 No. 205-12, Energy Management Equipment, Industry Canada Compliant, ICES-003
	Australia and New Zealand	RCM Mark, Australia/NZ Emissions Compliant.

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Global Safety Information

English

- Make sure that the line power supply is in accordance with the power supply specified in the Technical Specifications section.
- This sensor / transmitter is to be used mounted on the wall only.
- All wiring should conform to local codes and must be carried out by authorized personnel only.
- Keep high and low voltage wiring separated.
- When using multi-stranded wire apply a cable ferrule to the cable end.
- Check all wiring connections before applying power to the system.
- Contact with components carrying hazardous voltage can cause electric shock and may result in severe injury or death.
- Short-circuited or improperly connected wires may result in permanent damage to the equipment.
- Not adhering to these operational instructions could cause injury or damage the equipment.
- If the cable between the sensor and the controller is over 3 meters, it should be shielded. The shield would be connected at the controller end of the cable.
- Retain this document.

Français

- Assurez-vous que la source électrique est conforme à l'alimentation spécifiée à la section Caractéristiques techniques.
- Ce(tte) sonde / transmetteur doit être monté(e) en position murale uniquement.
- Le raccordement électrique doit être réalisé par le personnel autorisé conformément aux prescriptions locales.
- La tension d'alimentation et la basse tension doivent être amenées séparément
- En cas d'utilisation de câbles flexibles, il faut utiliser des cosses de câble
- Contrôlez toutes les liaisons par câble avant de mettre le vérin en circuit
- Le contact avec des composants porteurs de tensions dangereuses peut causer une décharge électrique et peut entraîner des blessures graves ou la mort.
- Des fils en court-circuit ou mal branchés peuvent entraîner des dommages permanents pour l'équipement
- Ne pas respecter le présent mode d'emploi peut provoquer des blessures ou endommager le matériel
- "Si le câble entre la capteur et le régulateur dépasse 3 mètres, il doit être blindé. Le blindage devra être connecté vers l'extrémité du câble coté régulateur."
- Conserver ce document

Deutsch

- Stellen Sie sicher, dass die Spannungsversorgung den Anforderungen im Abschnitt Technische Daten entspricht.
- Dieser Sensor / Transmitter kann nur wandmontiert eingesetzt werden.
- Der elektrische Anschluß ist nach den örtlichen Vorschriften durch autorisiertes Personal durchzuführen.

- Versorgungsspannung und Niederspannung sind getrennt zuzuführen
- Bei Verwendung von flexiblen Leitungen sind Kabelschuhe zu verwenden
- Überprüfen Sie alle Kabelverbindungen bevor Sie den Antrieb einschalten.
- Der Kontakt mit Komponenten, auf denen gefährliche Spannung anliegt, kann zu einem Stromschlag führen und schwere Körperschäden oder sogar den Tod zur Folge haben
- Kurzgeschlossene oder falsch angeschlossene Drähte können bleibende Schäden am Gerät verursachen
- Die Missachtung dieser Bedienungsanleitung könnte zu Verletzungen oder zu Beschädigungen des Equipments führen.
- Wenn das Kabel zwischen die Fühler und dem Regler länger als 3 m ist, sollte ein abgeschirmtes Kabel verwendet werden, dessen Abschirmung reglerseitig anzuschließen ist
- Bewahren Sie dieses Dokument auf

Italiano

- Assicurarsi che la tensione di alimentazione sia in accordo con quanto indicato nel paragrafo Specifiche Tecniche.
- Questo sensore / trasmettitore deve essere installato solo a parete.
- L'allacciamento elettrico deve essere eseguito da personale autorizzato e conformemente alle normative locali.
- La tensione di alimentazione e la bassa tensione devono essere alimentate separatamente
- In caso di impiego di conduttori flessibili usare degli ancoraggi per cavi
- Prima di inserire l'azionamento controllare tutti gli allacciamenti dei cavi
- Il contatto con componenti sottoposti a tensioni pericolose può causare scosse elettriche con conseguenti lesioni gravi o morte.
- I cavi in corto circuito o collegati impropriamente potrebbero causare danni permanenti all'apparecchiatura.
- Non attenersi alla presente istruzione operativa potrebbe causare danni alle persone o alle attrezzature
- Se la lunghezza del cavo tra il sensore e il controllore è superiore ai 3 metri, il cavo stesso dovrebbe essere schermato. La schermatura deve essere collegata all'estremità del cavo dalla parte del controllore.
- Conservare questo documento

Español

- Asegúrese de que la alimentación de red coincide con las especificaciones de alimentación en el apartado de Especificaciones técnicas.
- Este sensor / transmisor solo puede utilizarse si está montado en pared.
- La conexión eléctrica deberá ser realizada según las disposiciones locales y por personal autorizado.
- La tensión de alimentación y la baja tensión deben tenderse por separado.

- Al usar cables flexibles, deberán utilizarse terminales de cable.
- Comprobar todas las conexiones de cables, antes de conectar el accionamiento.
- El contacto con elementos portadores de alto voltaje puede provocar una descarga eléctrica y producir lesiones graves o incluso la muerte
- Los cables cortocircuitados o mal conectados pueden provocar daños permanentes en el equipo
- El incumplimiento de estas instrucciones de funcionamiento puede causar lesiones personales o daños en el equipo
- En caso de que la longitud del cable conectado entre el sensor y el controlador sea superior a 3 metros, entonces este deberá ser apantallado. El apantallamiento deberá estar conectado en la parte del controlador.
- Conserve este documento

Nederlands

- Zorg ervoor dat de elektrische voeding overeenkomt met de elektrische voeding zoals vermeld in het Technische Specificaties-gedeelte.
- Deze opnemer alleen gemonteerd aan de muur toepassen.
- De elektrische aansluiting moet volgens de plaatselijke voorschriften door geautoriseerd personeel uitgevoerd worden.
- Voedingsspanning en laagspanning moeten afzonderlijk toegevoerd worden.
- Bij het gebruik van flexibele leidingen moeten kabelschoenen gebruikt worden.
- Controleer alle kabelverbindingen voor u de aandrijving inschakelt
- Contact met onderdelen met een gevaarlijke spanning kan elektrische schokken veroorzaken en ernstig letsel of de dood tot gevolg hebben
- Kortsluitingen of verkeerd aangesloten bedradingen kunnen permanente schade aan de apparatuur tot gevolg hebben
- Het niet naleven van deze gebruiksinstructies kan leiden tot persoonlijk letsel of schade aan de apparatuur
- Wanneer de kabel tussen de voeler en de Controller langer is dan 3 meter is het noodzakelijk om afgeschermd kabel te gebruiken. De kabel afscherming moet aangesloten worden aan de Controller.
- Bewaar dit document.

Svenska

- Försäkra dig om att strömförsörjningen är i enlighet med strömförsörjningen som anges i tekniska specifikations sektionen.
- Denna givare är endast för väggmontage.
- Elanslutningen ska utföras av behörig personal i enlighet med de lokala föreskrifterna.
- Försörjningsspänning och lågspänning ska tillföras åtskilt
- Vid användning av flexibla ledningar ska kabelskor användas
- Kontrollera alla kabelförbindelser innan du tillkopplar ställdonet

- Kontakt med komponenter med farlig spänning kan ge elektriska stötar som kan orsaka allvarliga eller livshotande personskador
- Kortslutna eller felaktigt anslutna kablar kan resultera i varaktiga skador på utrustningen.
- Om innehållet i den här bruksanvisningen inte efterföljs kan det leda till skada på person eller utrustning.
- Om anslutningskabeln mellan temperaturgivare och styrenheten är längre än 3 meter, bör man använda skärmd kabel. Skärmen ansluts i den ändan som kopplas in i styrenheten
- Behåll det här dokumentet.

Cesky

- Zkontrolujte, že napájecí zdroj odpovídá požadavkům na napájení, uvedených v části Technické údaje.
- Tento snímač / převodník je určen pouze pro montáž na stěnu.
- Veškerá zapojení by měla odpovídat místním předpisům a musí být prováděna pouze oprávněnými pracovníky.
- Vysokonapěťová a nízkonapěťová vedení oddělte
- Při použití vícežilového kabelu instalujte do pruchodky gumový tesnicí kroužek
- Před připojením systému ke zdroji napájení proveďte kontrolu všech zapojení.
- Kontakt se součástmi, které jsou pod napětím, může způsobit zasažení elektrickým proudem a vážný úraz nebo smrt.
- Zkratované nebo nesprávně připojené vodiče mohou způsobit nevratné poškození zařízení.
- Nedodržení těchto provozních pokynů by mohlo způsobit zranění nebo poškození zařízení
- Pokud je délka kabelu mezi čidlo a kontrolérem větší než 3 metry, kabel musí být stíněný. Stínění by mělo být uzeměno pouze na jednom konci u kontroléru.
- Tento dokument uschovejte.

Polski

- Upewnij się, czy napięcie zasilania jest zgodne z napięciem wyspecyfikowanym w odpowiedniej sekcji dokumentacji technicznej.
- Ten czujnik/nadajnik przeznaczony jest tylko do zamontowania na ścianie.
- Okablowanie musi być zgodne z lokalnymi przepisami i jego montaż musi być przeprowadzany wyłącznie przez uprawniony personel.
- Należy odseparować kable niskiego napięcia od okablowania wysokiego napięcia.
- W przypadku stosowania kabla wielożyłowego należy założyć tulejkę na jego koniec
- Przed włączeniem zasilania systemu należy sprawdzić wszystkie połączenia kabli.
- Dotknięcie elementów będących pod niebezpiecznym napięciem może spowodować porażenie i poważne obrażenia lub nawet śmierć.
- Zwarcia lub nieprawidłowo podłączone kable mogą spowodować trwałe uszkodzenie urządzeń.
- Nieprzestrzeganie niniejszych instrukcji użytkowania może spowodować obrażenia lub uszkodzenie sprzętu.
- Jeżeli przewód pomiędzy czujnik i sterownikiem jest dłuższy niż 3 metry, powinien być ekranowany. Ekran

powinien być wtedy podłączony jedynie po stronie sterownika.

- Niniejszy dokument należy zachować.

Russian

- Убедитесь что линия питания соответствует питанию указанному в разделе Технической Спецификации
- данный передатчик\сенсор используется только для монтажа на стене.
- "Все электрические цепи и соединения должны соответствовать местным нормам и правилам и должны выполняться только уполномоченным персоналом."
- Прокладывайте цепи высокого и низкого напряжения отдельно
- В случае применения много жильного провода заключите конец провода в наконечник.
- Проверьте все проводные соединения, прежде чем подавать питание на систему.
- Прикосновение к частям и элементам, находящимся под опасным напряжением, может привести к серьезному увечью или смерти в результате поражения электрическим током.
- Короткое замыкание или неправильное подключение электрических цепей может привести к неустраняемому повреждению оборудования
- Несоблюдение настоящих указаний может стать причиной несчастного случая или повреждения оборудования.
- если кабель между Датчик и контроллером составляет более 3 метров, то должен быть экранирован. Экран следует заземлять в одной точке на стороне контроллера.
- Сохраните этот документ

Portuguese

- Certifique-se que a fonte de alimentação é compatível com a fonte de alimentação especificada na secção de Especificação Técnica.
- Este sensor / transmissor foi projetado para montagem somente em parede.
- Toda a fiação elétrica deverá ser realizadas segundo a disposição locais e apenas por pessoal autorizado
- Manter os fios de alta tensão e baixa separados

- Ao usar fio flexível aplicar na extremidade do cabo terminalis
- Verifique todas as ligações antes de ligar para o sistema
- Contato com os componentes portadores de alte tensão pode provocar choque elétrico e podem resultar ferimentos graves ou morte
- Curto-circuito ou fios mal conectados podem provocar danos permanentes no equipamento.
- Não aderir a estas instruções operacionais pode provocar ferimentos ou danos ao equipamento
- Se o cabo entre o sensor e o controlador é superior a 3 metros,este deve ser protegido. O escudo deve ser ligado no lado do controlador na extremidade do cabo
- Guarde este documento

Chinese

- 确保线电源与技术规格章节中要求的电源保持一致。
- 该传感器 / 变送器仅被用于安装在墙壁上。
- 注意：该传感器仅适用于风管。
- 所有接线必须符合当地电器规范，并由具有资质的人员进行接线
- 将高压和低压线分离
- 当使用多股线时，请在电缆末端安装金属套圈
- 确保所接的电源规格符合产品所规定的电源要求
- 系统通电前检查所有接线是否准确
- 触碰带有危险电压的部件可能引起触电，并可导致人员受伤或死亡
- 短路或者错误接线会导致设备永久性损坏
- 不遵守这些操作指南会导致人员受伤或者机器损坏
- 如果传感器和控制器的距离超过 3 米，需采用屏蔽线
- 保存此文档
-

European Single Point of Contact:

JOHNSON CONTROLS
WESTENDHOF 3
45143 ESSEN
GERMANY

NA/SA Single Point of Contact:

JOHNSON CONTROLS
507 E MICHIGAN ST
MILWAUKEE WI 53202
USA

APAC Single Point of Contact:

JOHNSON CONTROLS
C/O CONTROLS PRODUCT
MANAGEMENT
NO. 22 BLOCK D NEW DISTRICT
WUXI JIANGSU PROVINCE 214142
CHINA



Building Efficiency

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