

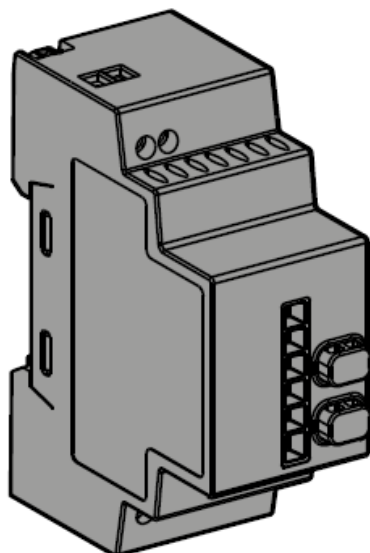


LCIE SUD EST
Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS - FRANCE

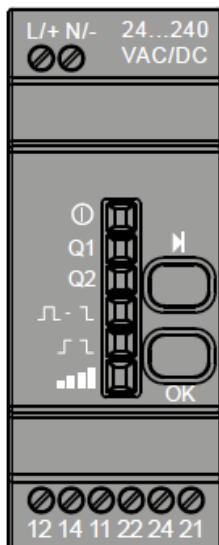
GENERAL INFORMATION

FCCID: Y7HZBRRR

1.1. Product description



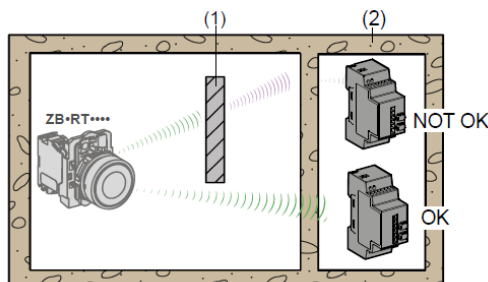
ZBRRR



Receiver 2 relays outputs
Récepteur 2 sorties relais
Empfänger mit 2 Relais-Ausgängen
Receptor con 2 salidas de relé
2 uscite relè ricevitore
接收器 2 路继电器输出
Saídas de 2 relés do receptor
受信機 2 が出力を中継

Data sheet of equipment

Mounting tips / Conseils de montage / Tipps zur Montage / Consejos para el montaje / Consigli per il montaggio / 安装提示 /
Sugestões de montagem / 取り付けのヒント



Signal attenuation according to the material
Affaiblissement du signal en fonction du matériau
Signaldämpfung in Abhängigkeit vom Material
Atenuación de la señal según el material

Attenuazione del segnale in base al tipo di materiale
信号衰減取决于材料
Atenuação de sinal de acordo com o material
マニュアルに記されている信号減衰

Glass window	Fenêtre verre	Glasfenster	Ventana de cristal	Finestra di vetro	玻璃窗	Janela de vidro	ガラス張りの窓	10...20% (*)
Plaster wall	Mur de plâtre	Gipswand	Pared de yeso	Muro di gesso	石膏墙	Parede de estuque	しっくい壁	30...45% (*)
Brick wall	Mur de brique	Ziegelwand	Pared de ladrillos	Muro di mattoni	砖墙	Parede de tijolo	レンガ壁	60% (*)
Concrete wall	Mur béton	Betonwand	Pared de hormigón	Muro di cemento	混凝土墙	Parede de cimento	コンクリート壁	70...80% (*)
Metal structure	Structure métallique	Metallkonstruktion	Estructura metálica	Struttura metallica	金属结构	Estrutura metálica	金属構造	50...100% (*)

(*) : Values for indication purposes only. Actual values depend on the thickness and nature of the material.

(*) : Valeurs indicatives dépendant de l'épaisseur et de la nature du matériau

(*) : Die angegebenen Werte sollen lediglich als Anhaltspunkt dienen. Die tatsächlichen Werte sind von der Stärke und Beschaffenheit des Materials abhängig.

(*) : Valores proporcionados con fines indicativos. Los valores reales dependen del grosor y la naturaleza del material.

(*) : I valori sono solo a scopo indicativo. I valori reali dipendono dallo spessore e dalla natura del materiale.

(*) : 该值仅用于指示目的。实际值取决于材料的厚度和特性。

(*) : Os valores servem apenas como indicação. Os valores reais dependem da espessura e da natureza do material.

(*) : 値はあくまでも目安です。実効値は材質や厚みによって左右されます。

(1) Metal structure / Structure métallique / Metallkonstruktion
Estructura metálica / Struttura metallica / 金属结构
Estrutura metálica / 金属構造

(2) Wall / Mur / Wand / Pared / Muro / 墙 / Parede / 壁

Installation conditions / Conditions d'installation / Installationsbedingungen / Condiciones de la instalación / Condizioni di installazione /
安装条件 / Condições de instalação / 設置条件

Transmitter operating temperature	Température d'utilisation émetteur	Betriebstemperatur des Senders	Temperatura de funcionamiento del transmisor	Temperatura di funzionamento del trasmettitore	发射器工作温度	Temperatura de funcionamento do transmissor	トランスミッタの動作時温度	-25 ... +70°C
Receiver operating temperature	Température d'utilisation récepteur	Betriebstemperatur des Empfängers	Temperatura de funcionamiento del receptor	Temperatura di funzionamento del ricevitore	接收器工作温度	Temperatura de funcionamento do receptor	受信機の動作時温度	-25 ... +55°C
Transmitter protection level	Degré de protection émetteur	Schutzgrad des Senders	Nivel de protección del transmisor	Livello di protezione del trasmettitore	发射器保护等级	Nível de protecção do transmissor	トランスミッタの保護レベル	IP30
Receiver protection level	Degré de protection récepteur	Schutzgrad des Empfängers	Nivel de protección del receptor	Livello di protezione del ricevitore	接收器保护等级	Nível de protecção do receptor	受信機の保護レベル	IP20
Transmitter shock resistance	Tenue aux chocs émetteur	Stoßfestigkeit des Senders	Resistencia a golpes del transmisor	Resistenza agli urti del trasmettitore	发射器抗冲击性	Resistência do transmissor ao choque	トランスミッタの衝撃抵抗	IK03

Radio / Radio / Funk / Radio / Radio / 无线电 / Rádio / 無線

Wireless Communication IEEE 802.15.4 2.4 GHz (channel 11..26) compliant / Communication sans fil conforme à la norme IEEE 802.15.4 2.4 GHz (canaux 11 à 26) /
Drahtlose Kommunikation IEEE 802.15.4 2.4 GHz (Kanal 11..26) konform / Comunicazione inalámbrica compatible con IEEE 802.15.4 2.4 GHz (canales 11-26) / Comunicazione wireless
conforme allo standard IEEE 802.15.4 a 2.4 GHz (canali 11-26) / 无线通信符合IEEE 802.15.4标准, 工作在2.4 GHz频段 (信道11至26)。 / Comunicação sem fios IEEE 802.15.4 2.4 GHz
(canal 11..26) compatível / 無線通信 IEEE 802.15.4 2.4 GHz (チャンネル11~26) 準拠



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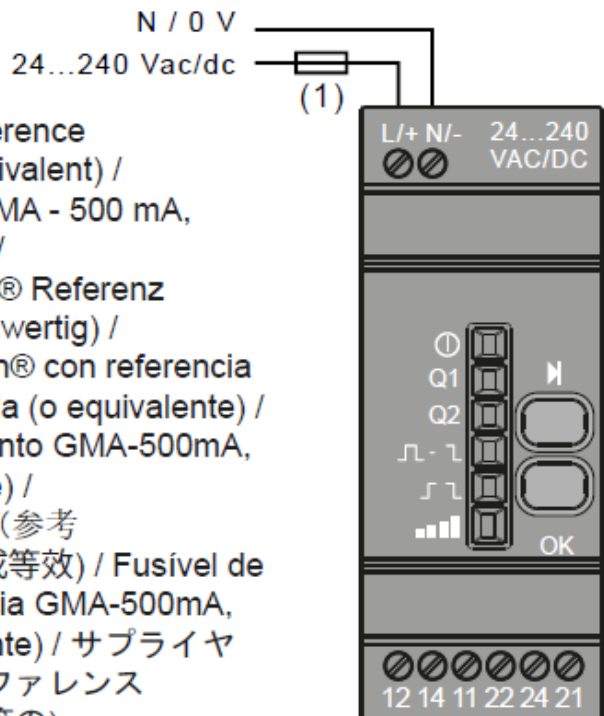
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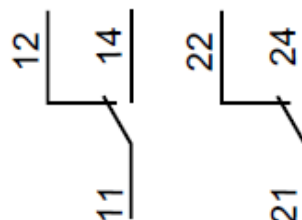
ZBRRA

- (1): 500 mA fuse from supplier Bussmann® reference
 GMA-500mA, 250 V 0.5 A fast-blow (or equivalent) /
 Fusible 500 mA de Bussman® référence GMA - 500 mA,
 250 V 0,5 A à action rapide (ou équivalent) /
 500-mA-Sicherung von Anbieter Bussmann® Referenz
 GMA-500mA, 250 V 0,5 A flink. (oder gleichwertig) /
 Fusible de 500 mA del fabricante Bussmann® con referencia
 GMA-500mA, 250 V y 0,5 A de acción rápida (o equivalente) /
 500 mA, Bussmann® con codice di riferimento GMA-500mA,
 250 V 0,5 A ad azione rapida (o equivalente) /
 500 mA 熔断器, 来自供应商 Bussmann® (参考
 GMA-500mA, 250 V 0.5 A 快速熔断器) (或等效) / Fusível de
 500 mA do fornecedor Bussman®, referência GMA-500mA,
 250 V 0,5 A de queima rápida (ou equivalente) / サプライヤ
 Bussmann® からの 500 mA ヒューズ: リファレンス
 GMA-500mA、250 V 0.5 A 速断 (または同等の)
- (2): Output contact ratings B300 - R300 Pilot Duty 3 A - 240 Vac
 general purpose/ Régimes nominaux des contacts de sortie
 B300 - R300 Pilot Duty 3 A - 240 Vca usage général /
 Ausgangsleistungsstufen B300 - R300 Schaltfunktion 3 A -
 240 VAC (allgemeiner Zweck) / Valores nominales de
 contactos de salida B300 - R300 relé auxiliar 3 A - 240 V
 CA uso general / valori nominali uscita contatto B300 -
 R300 Pilot Duty 3 A - 240 Vac uso generale / 输出触点容量
 B300 - R300 较小负载 3 A - 240 Vac 通用型 /
 Classificações de contacto de saída B300 - R300 Dotação
 Piloto com uso geral 3 A - 240 VCA / 出力接点定格 B300 -
 R300 Pilot Duty 3 A - 240 VAC general purpose



$I_{max} = 3 A$

(2)



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LCIE**1.2. Tested System Details**

802.15.4:	ZigBee
Chipset / RF Module	EFR32MG24A010F1536IM40-BR
Frequency band:	[2400 – 2483.5] MHz
Spectrum Modulation:	DSSS
Number of Channel:	16
Spacing channel:	5MHz
Channel bandwidth:	2MHz
Antenna Type:	Internal
Antenna connector:	None
Transmit chains:	1
Receiver chains	1
Adaptivity mode:	No

CHANNEL PLAN	
Channel	Frequency (MHz)
Cmin: 11	2405
12	2410
13	2415
14	2420
15	2425
16	2430
17	2435
Cmid: 18	2440
19	2445
20	2450
21	2455
22	2460
23	2465
24	2470
25	2475
Cmax: 26	2480

DATA RATE		
Data Rate (Mbps)	Modulation Type	Worst Case Modulation
0.25	O-QPSK	☒



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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or/and ANSI C63.10, FCC Part 15 SubPart 15B and 15C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed: **August 20, 2025 to August 28, 2025**

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 or/and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55032/CISPR32 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.