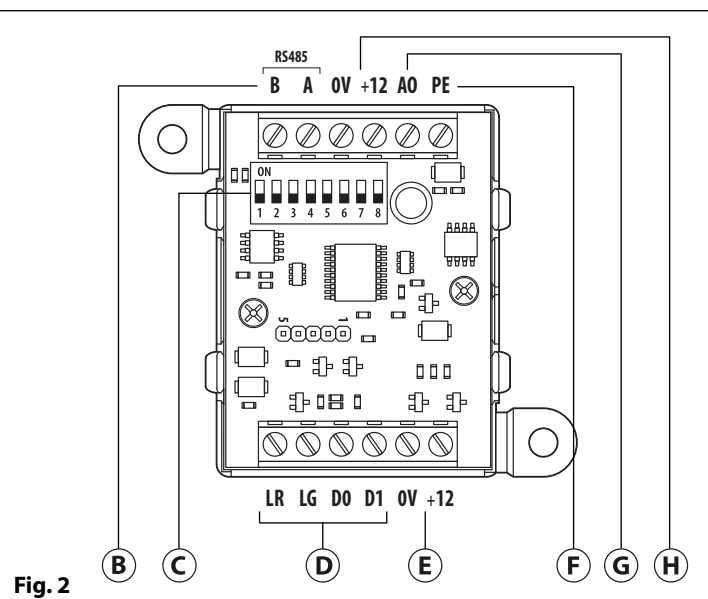
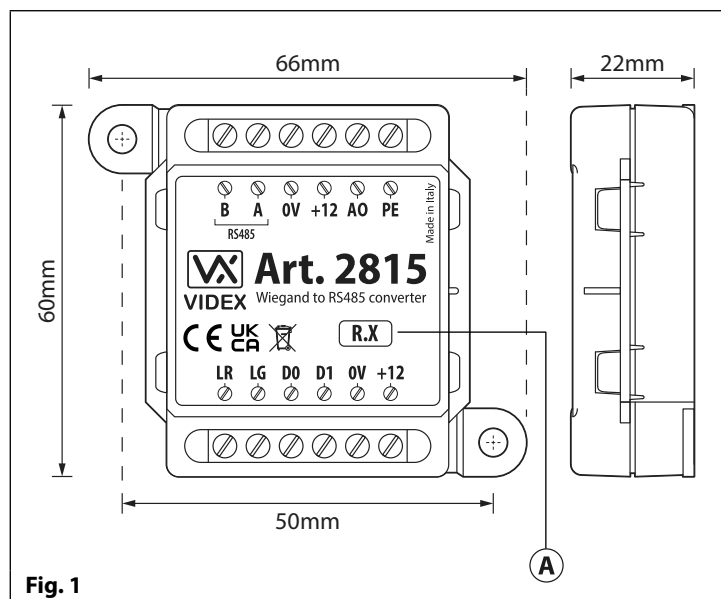


Art. 2815 Wiegand to RS485 Converter - Rev.0.1



DESCRIPTION

The **Art.2815** is a wiegand to RS485 converter, **Fig.1**. It allows connection of 3rd party readers (proximity or keypads) which operate on wiegand protocol to connect onto an RS485 bus. It is compatible with other Videx devices which incorporate an RS485 bus connection, for example Videx's 4G GSM intercoms and IP system devices.

When connected via the RS485 bus (**Fig.2, B**) it can be integrated as part of an access control network with other RS485 devices.

It has a single switched 0V auxiliary output **AO** (**Fig.2, G**) that can be used to trigger a relay and can be activated either via the RS485 bus or via the switched 0V **PE** input(**Fig.2, F**).

When set with the same device ID as an **Art.2813** remote relay and connected via the RS485 bus it will operate the remote relay's built-in relay (CO, NO, NC).

PROGRAMMING

IMPORTANT NOTE: Please note that the black area represents the dip-switch position: ON =  , OFF = 

Programming of the converter is carried out using the 8 way dip-switch (**Fig.2, C**). There are 2 programming modes for the device which is determined by the position of switch 8. When switch 8 is in the **OFF** position (normal operation mode) switches 1 to 4 are used to setup the device ID (**ID.00 - ID.15**), switches 5 to 7 are used to setup the wiegand operating mode for either proximity readers or keypads (see notes further on). When switch 8 is in the **ON** position (programming mode) switches 1 to 4 are used to setup the auxiliary output **AO** time (in seconds) from 0 to 15 seconds where 0 will setup the auxiliary output for latching mode. Switches 5 to 7 are used to setup a fixed keypad code length (see notes further on).

DIP-SWITCHES 1 - 4

It should be noted that when setting the device ID or the auxiliary output **AO** time for switches 1 to 4 each switch corresponds to one bit which can have a value 0 (**OFF**) or 1 (**ON**). Each bit corresponds to a decimal weight depending on the position: switch 1 = decimal 1, 2=2, 3=4, 4=8, i.e. to set the device ID to **ID.7** or the **AO** time for 7 seconds, put switches 1, 2 and 3 **ON** (1+2+4=7), see table below.

SWITCHES				DECIMAL WEIGHT				DEVICE ID (ID.0 - ID.15) AND AUXILIARY AO TIME (0 - 15 SECS)
4	3	2	1	8	4	2	1	
OFF	OFF	OFF	OFF	0	0	0	0	0
OFF	OFF	OFF	ON	0	0	0	1	1
OFF	OFF	ON	OFF	0	0	1	0	2
OFF	OFF	ON	ON	0	0	1	1	3
OFF	ON	ON	ON	0	1	1	1	7
ON	ON	ON	ON	1	1	1	1	15

LEGEND

- A** Firmware version - **R.X**
- B** RS485 bus terminals
- C** 8 way programmable dip switches
- D** Wiegand output (**LR/LG/DO/D1**)
- E** +12Vdc power output for reader
- F** Switched 0V auxiliary output **AO** trigger
- G** Auxiliary output **AO**
- H** +12Vdc power input

Art. 2815 Wiegand to RS485 Converter

PROGRAMMING MODE (SWITCH 8 = ON)

SETTING THE AUXILIARY OUTPUT TIME (AO) - SWITCHES 1 - 4

The operating time for the auxiliary output **AO** on the converter can be set using switches 1 to 4 when switch 8 = **ON**. Use the tables below to setup the auxiliary output time.

SWITCH POSITION				AO OUTPUT TIME (SECS)
1	2	3	4	
OFF	OFF	OFF	OFF	0 = LATCH MODE
ON	OFF	OFF	OFF	1
OFF	ON	OFF	OFF	2
ON	ON	OFF	OFF	3
OFF	OFF	ON	OFF	4
ON	OFF	ON	OFF	5 (default)
OFF	ON	ON	OFF	6
ON	ON	ON	OFF	7

SWITCH POSITION				AO OUTPUT TIME (SECS)
1	2	3	4	
OFF	OFF	OFF	ON	8
ON	OFF	OFF	ON	9
OFF	ON	OFF	ON	10
ON	ON	OFF	ON	11
OFF	OFF	ON	ON	12
ON	OFF	ON	ON	13
OFF	ON	ON	ON	14
ON	ON	ON	ON	15

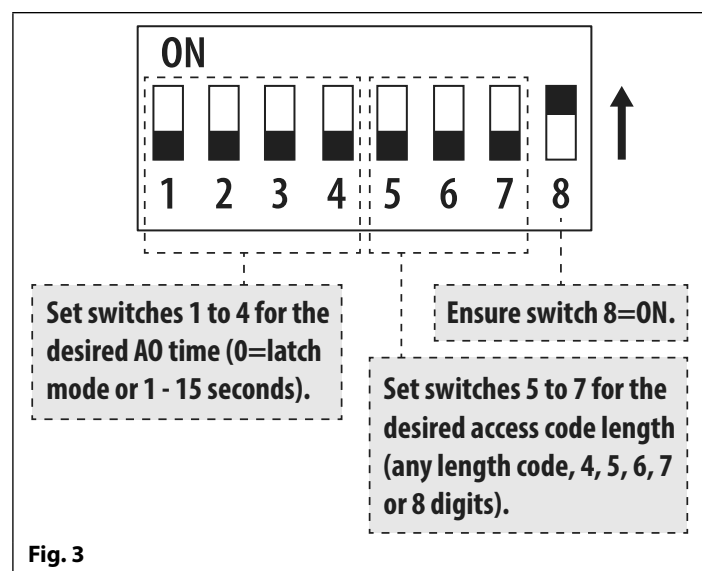
SETTING THE KEYPAD CODE LENGTH - SWITCHES 5 - 7

When the converter is used with a wiegand keypad the access code length can be set from any length code (default), 4, 5, 6, 7 and 8 digits in length. The following table shows the settings for switches 5 to 7 and the corresponding access code length.

SWITCH POSITION			KEYPAD ACCESS CODE LENGTH
5	6	7	
OFF	OFF	OFF	Any code length (default)
ON	OFF	OFF	4 digit fixed length code
OFF	ON	OFF	5 digit fixed length code
ON	ON	OFF	6 digit fixed length code
OFF	OFF	ON	7 digit fixed length code
ON	OFF	ON	8 digit fixed length code
OFF	ON	ON	currently unused - left for future expansion
ON	ON	ON	currently unused - left for future expansion

To setup the auxiliary output time and the keypad access code length follow the steps below:

1. Disconnect the power to the converter.
2. Set switch 8 to the **ON** position, see **Fig.3**.
3. Set dip-switches 1 to 4 for the desired **AO** output time using the appropriate switch settings from the first table above (**Fig.3**).
4. Next set dip-switches 5 to 7 for the desired keypad access code length using the appropriate switch settings from the second table above (**Fig.3**).
5. Once the desired **AO** output time and access code length is selected and the corresponding switches set reconnect the power to the converter.
6. Wait a couple of seconds then power down again. The **AO** output time and access code length for the converter is saved to the onboard non-volatile memory.
7. Switch dip-switch 8 to the **OFF** position and set the device ID and wiegand operating mode before powering **ON** again, as shown next.



SETTINGS

SETTING THE DEVICE ID (ID.0 - ID.15) - SWITCHES 1 - 4 (SWITCH 8 MUST BE OFF)

The device ID of the converter from **ID.0** up to **ID.15** is set using switches 1 to 4 (8 must be **OFF**). Use the following tables to setup the device ID of the converter.

Art. 2815 Wiegand to RS485 Converter

SWITCH POSITION				DEVICE ID
1	2	3	4	
OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	1
OFF	ON	OFF	OFF	2
ON	ON	OFF	OFF	3
OFF	OFF	ON	OFF	4
ON	OFF	ON	OFF	5
OFF	ON	ON	OFF	6
ON	ON	ON	OFF	7

SWITCH POSITION				DEVICE ID
1	2	3	4	
OFF	OFF	OFF	ON	8
ON	OFF	OFF	ON	9
OFF	ON	OFF	ON	10
ON	ON	OFF	ON	11
OFF	OFF	ON	ON	12
ON	OFF	ON	ON	13
OFF	ON	ON	ON	14
ON	ON	ON	ON	15

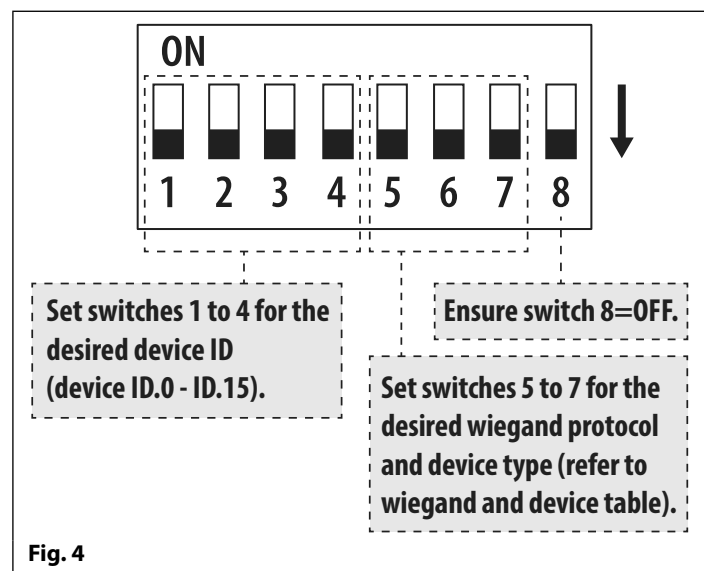
SETTING THE WIEGAND PROTOCOL - SWITCHES 5 - 7 (SWITCH 8 MUST BE OFF)

Since the converter can work with either a wiegand proximity reader or wiegand keypad the correct wiegand protocol must be setup to match the wiegand protocol of the device. The following table shows the settings for switches 5 to 7 and the corresponding wiegand protocol for the proximity reader or keypad.

SWITCH POSITION			WIEGAND PROTOCOL & DEVICE TYPE
5	6	7	
OFF	OFF	OFF	26BIT wiegand proximity reader
ON	OFF	OFF	34BIT wiegand proximity reader
OFF	ON	OFF	26BIT wiegand keypad
ON	ON	OFF	34BIT wiegand keypad
OFF	OFF	ON	4BIT keypad mode / 34BIT proximity reader
ON	OFF	ON	6BIT keypad mode / 34BIT proximity reader
OFF	ON	ON	8BIT keypad mode / 34BIT proximity reader
ON	ON	ON	currently unused - left for future expansion

To setup the device ID and the wiegand protocol of the device connected follow the steps below:

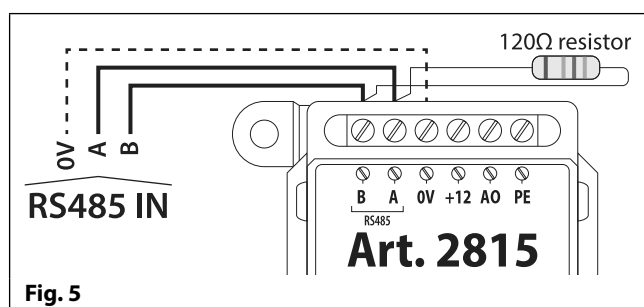
1. Disconnect the power to the converter.
2. Ensure switch 8 is **OFF**, see **Fig.4**.
3. Set dip-switches 1 to 4 for the desired device ID using the appropriate switch settings from the first table above (**Fig.4**).
4. Next set dip-switches 5 to 7 for the desired wiegand protocol and device type from the second table above (**Fig.4**).
5. Once the desired device ID, wiegand protocol and device type is selected and the corresponding switches set reconnect the power to the converter.
6. The **Art.2815** converter is ready to use. These switches should remain in these positions for normal use.



RS485 BUS TERMINATION

If the converter is the end of line device on the RS485 bus a 120Ω resistor must be fitted across the RS485 bus terminals **A** and **B**, as shown in **Fig.5**, but only over a great distance (up to 500m max.).

Over shorter distances (approximately 100m or so) a 120Ω resistor will not be required.



TERMINAL CONNECTIONS

Connection	Description	
B	RS485 bus terminal connections	
A		
0V	0V power input	
+12	12Vdc power input	
AO	Aux output AO, switched 0V output, (max.100mA)	
PE	Aux output trigger, switched 0V input.	
LR	LED red signal	Wiegand connections: data, access granted (LED green) and access denied (LED red).
LG	LED green signal	
D0	Data 0	
D1	Data 1	
0V	0V power output	Power output for proximity or keypad.
+12	12Vdc power output	

TECHNICAL SPECIFICATION

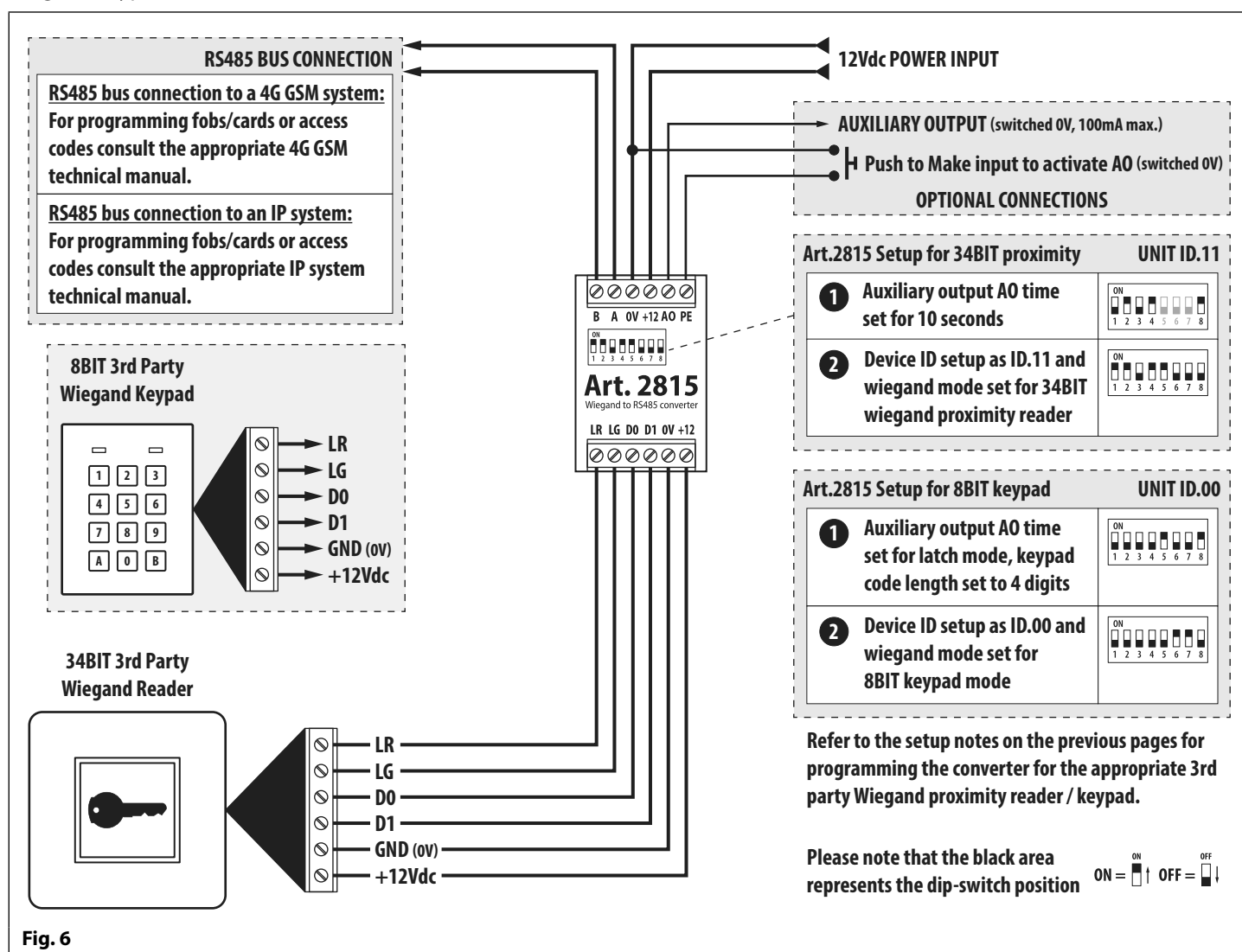
Working voltage:	12Vdc +/- 10%
Current:	10mA (max.)
Auxiliary output:	AO (switched 0V output)
Auxiliary output trigger:	PE (switched 0V input)
Wiegand connections:	LR, LG, D0 and D1
Wiegand protocols:	26BIT, 34BIT (proximity reader or keypad), 4BIT, 6BIT and 8BIT wiegand keypads
RS485 bus connections:	A and B
Programming:	via 8 way internal dip-switches for device ID, AO time, wiegand protocol and device selection and access code length



IT IS RECOMMENDED THAT THIS VIDEX PRODUCT IS INSTALLED BY A COMPETENT AND QUALIFIED ELECTRICIAN, SECURITY INSTALLATION SPECIALIST OR COMMUNICATIONS ENGINEER.

WIRING DIAGRAMS

In the example, **Fig.6** shows the RS485 converter connected to a 3rd party 34BIT wiegand proximity reader or 3rd party 8BIT wiegand keypad.

**Fig. 6**

Art. 2815 Wiegand to RS485 Converter

Fig.7 shows the RS485 converter connected to an **MTPX-EH 26BIT** wiegand reader and to a 4G GSM or IP system via the RS485 bus.

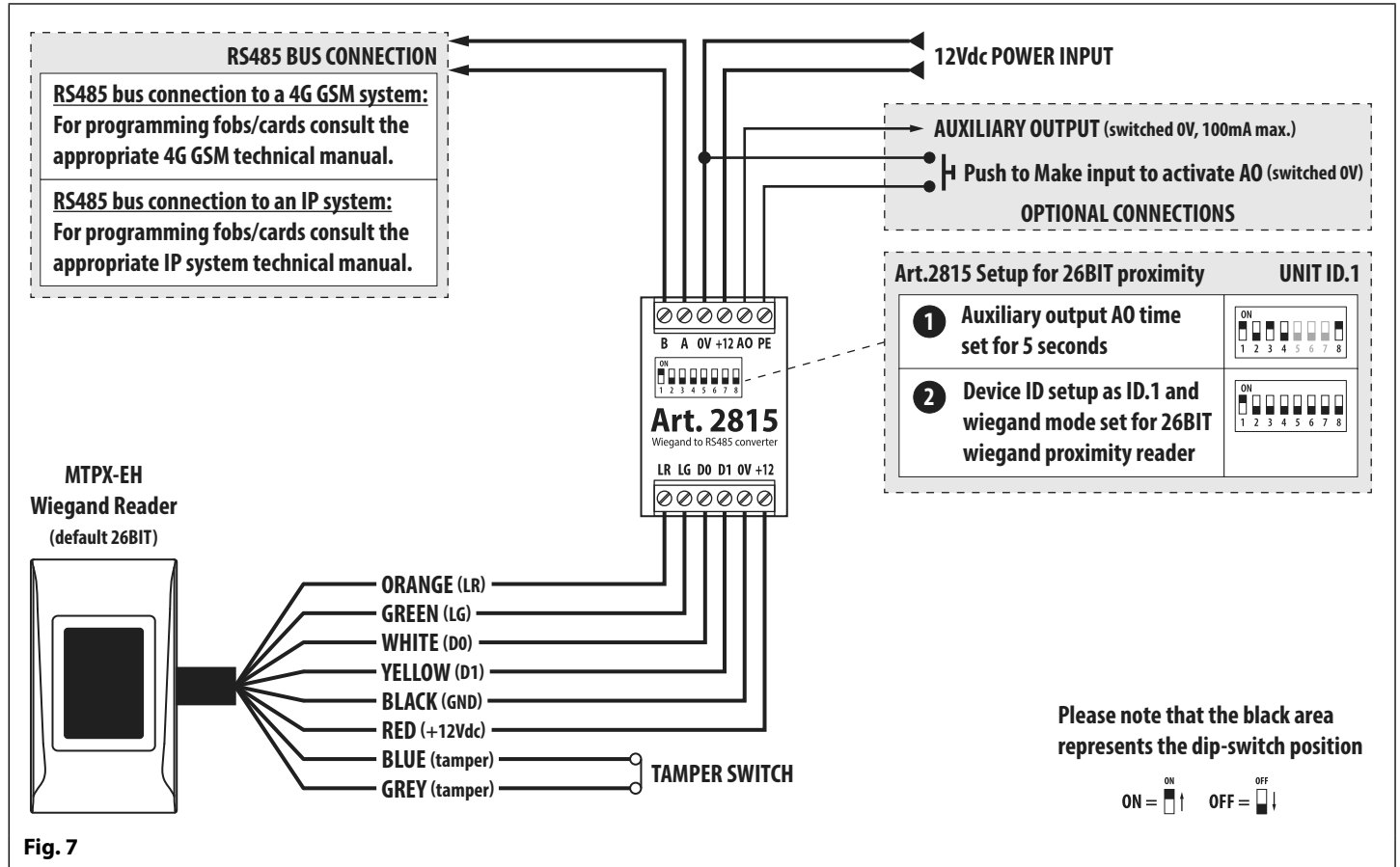
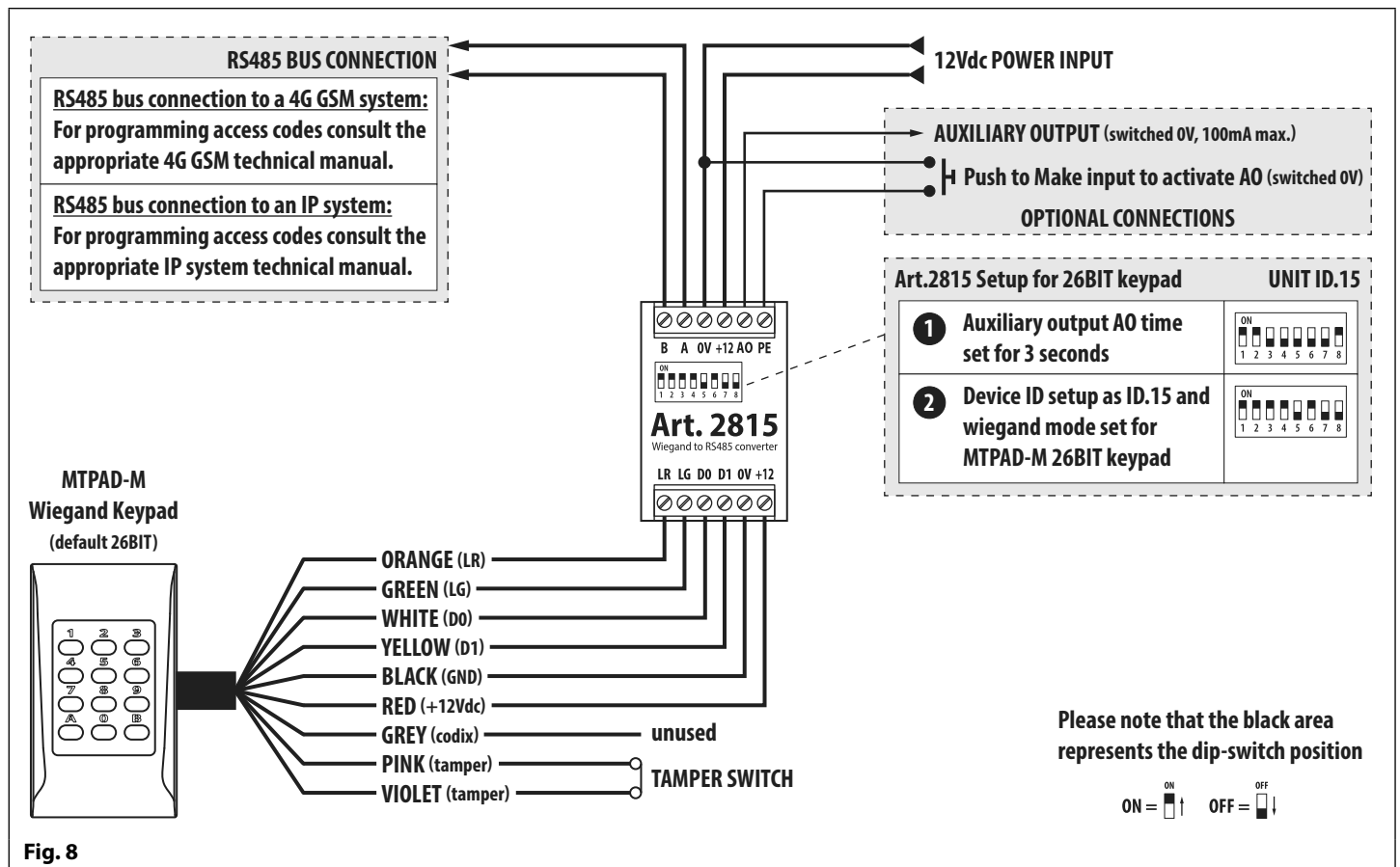
**Fig. 7**

Fig.8 shows the RS485 converter connected to an **MTPAD-M 26BIT** keypad and to a 4G GSM or IP system via the RS485 bus.

**Fig. 8**

Art. 2815 Wiegand to RS485 Converter

ENG DISPOSAL

In accordance with the Legislative Decree no. 49 of 14 March 2014 "Implementation of the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE)".

The crossed-out bin symbol on the equipment or on the packaging indicates that when the product reaches the end of its lifetime, it must be collected separately from mixed municipal waste. The user must, therefore, dispose of the equipment at the end of its lifetime in the suitable waste collection centres or bring it to the retailer during the purchase of a new equipment of equivalent type at the ratio of one-to-one. Furthermore, the user is allowed to dispose of the WEEEs of very small size (domestic appliances without any external dimension exceeding 25 cm (9.84 inches) for free to the retailers, without any purchase obligation. The correct waste disposal of the WEEEs contributes to their reuse, recycling and recovery and avoids potential negative effects on the environment and human health due to the possible presence of dangerous substances within them.



ITA SMALTIMENTO

Ai sensi del Decreto Legislativo 14 marzo 2014, n° 49 "Attuazione della direttiva 2012/19/UE sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE)".

Il simbolo del cassonetto barrato riportato sull'apparecchiatura o sulla sua confezione indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti urbani misti. L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita presso gli idonei centri di raccolta differenziata oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente, in ragione di uno a uno. L'utente ha, inoltre, la possibilità di conferire gratuitamente presso i distributori, senza alcun obbligo di acquisto, per i RAEE di piccolissime dimensioni (per le apparecchiature di tipo domestico con nessuna dimensione esterna superiore a 25 cm).

L'adeguata raccolta differenziata dei RAEE contribuisce al loro riutilizzo, riciclaggio e recupero ed evita potenziali effetti negativi sull'ambiente e sulla salute umana dovuti alla eventuale presenza di sostanze pericolose al loro interno.

FRA ÉLIMINATION

Conformément au décret législatif n° 49 du 14 mars 2014 relatif à l'« Application de la directive 2012/19 / UE relative aux déchets d'équipements électriques et électroniques (DEEE) ».

Le symbole de la poubelle barrée sur l'équipement ou sur son emballage indique que le produit en fin de vie utile doit être collecté séparément des autres déchets municipaux en mélange. L'utilisateur doit donc remettre l'équipement en fin de vie aux centres de collecte appropriés ou le restituer au revendeur lors de l'achat d'un nouveau type d'équipement équivalent, dans le rapport de un à un. De plus, l'utilisateur a la possibilité de conférer gratuitement aux distributeurs, sans aucune obligation d'achat, de très petits DEEE (pour les appareils ménagers sans dimensions extérieures supérieures à 25 cm). La collecte séparée adéquate des DEEE contribue à leur réutilisation, leur recyclage et leur valorisation et évite les éventuels effets négatifs sur l'environnement et la santé humaine en raison de la présence possible de substances dangereuses dans ceux-ci.

SPA ELIMINACIÓN

De conformidad con el Decreto legislativo n. 49 de 14 de marzo 2014 "Aplicación de la Directiva 2012/19/UE relativa a residuos de aparatos eléctricos y electrónicos (RAEE)".

El símbolo del contenedor tachado indicado sobre los aparatos o sobre los embalajes señala que el producto al final de su vida útil debe ser recogido separadamente de otros residuos municipales mezclados. Por tanto, el usuario deberá conferir los aparatos al final de su vida útil en los apropiados centros de recogida selectiva o devolverlos al revendedor al momento de la compra de nuevos aparatos equivalentes, en una relación de uno a uno. Además, el usuario tiene la posibilidad de entregar sin cargo a los distribuidores, sin ninguna obligación de compra, los RAEEs muy pequeños (para electrodomésticos sin dimensiones externas superiores a 25 cm).

La recogida selectiva apropiada de los RAEEs contribuye a su reutilización, reciclaje y valorización y evita potenciales impactos negativos sobre el medio ambiente y la salud humana debidos a la posible presencia de sustancias peligrosas dentro de ellos.

NLD VERWIJDERING

In overeenstemming met het Wetsbesluit nr. 49 van 14 maart 2015 "Implementatie van de Richtlijn 2012/19/EU inzake afgedankte elektrische en elektronische apparaten (AEEA)".

Het doorgeslechte vuilnisbaksymbool op het apparaat of de verpakking geeft aan dat het product aan het einde van zijn levensduur niet samen met het gewone huisvuil weggegooid mag worden. De gebruiker moet het apparaat aan het einde van zijn levensduur inleveren bij een gepast inzamelpunt of de winkel waar hij een nieuw apparaat van een gelijksoortig type zal kopen. De gebruiker kan tevens AEEA's van een zeer klein formaat (huishoudapparaten met een buitenafmeting kleiner dan 25 cm (9,84 inch) gratis en zonder enige aankoopverplichting bij handelaars inleveren. Een juiste verwijdering van AEEA's draagt bij tot hergebruik, recycling en terugwinning, en voorkomt potentiële negatieve effecten op het milieu en de menselijke gezondheid door de mogelijke aanwezigheid van gevaarlijke stoffen.

POR ELIMINAÇÃO

De acordo com o Decreto Legislativo n.º 49 de 14 de março de 2014 "Implementação da Diretiva 2012/19/UE relativa aos resíduos de equipamentos elétricos e eletrónicos (REEE)".

O símbolo do caixote do lixo riscado no equipamento ou na embalagem indica que quando o produto atinge o fim da sua vida útil, deve ser recolhido separadamente dos resíduos urbanos mistos. O utilizador deve, portanto, eliminar o equipamento no final da sua vida útil nos centros de recolha de resíduos adequados ou levá-lo ao vendedor durante a compra de um novo equipamento de tipo equivalente, na proporção de um para um. Além disso, o utilizador pode eliminar gratuitamente os REEE de dimensões muito reduzidas aos vendedores, sem qualquer obrigação de compra. (só aparelhos domésticos sem qualquer dimensão externa que exceda 25 cm, ou seja 9,84 polegadas). A correta eliminação dos REEE contribui para a sua reutilização, reciclagem e recuperação e evita potenciais efeitos negativos sobre o ambiente e a saúde humana devido à possível presença de substâncias perigosas no seu interior.

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Le produit est marqué CE à preuve de sa conformité et peut être distribué librement à l'intérieur des pays membres de l'union européenne UE.
Ce produit est conforme aux directives européennes 2014/30/EU (EMC) ; 2014/35/EU (LVD) ; 2011/65/EU (RoHS); marquage CE 93/68/EEC.

Het product heeft de CE-markering om de conformiteit ervan aan te tonen en is bestemd voor distributie binnen de lidstaten van de EU zonder beperkingen. Dit product volgt de bepalingen van de Europese Richtlijnen 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS): CE-markering 93/68/EEG.

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O produto tem a marca CE que demonstra a sua conformidade e destina-se a distribuição em todos os estados membros da UE, sem restrições. Este produto segue as disposições das Diretivas Europeias 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS): marcação CE 93/68/CEE.

