

## Introduction / Introduzione

Thanks for choosing a Omega device.

The TXDIN401 converts a resistance, current or voltage signals into a current signal for 4..20mA loop (2 wires).

Main features are:

- High accuracy;
- 16bit conversion;
- Programmable by RFid (NFC);
- 2624 Word non-volatile memory (circular buffer) for data-logging with sampling time selectable by the user;
- Possibility to rescale the output 4..20mA compared to input value;
- Compact dimensions;
- The software RF Programmer (available for download on Omega website) and the TX400-RFID allow:
  - complete configurability of the device;
  - download on PC of logged data;
  - visualization/printing of the resistance - time / current - time and voltage - time trend.

Grazie per aver scelto un prodotto Omega.

Lo strumento TXDIN401 converte un segnale di resistenza / corrente / tensione in un segnale normalizzato in corrente per loop 4..20 mA (tecnologia 2 fili).

Le caratteristiche dello strumento sono:

- Elevata precisione;
- Conversione della misura a 16 bit;
- Programmabilità via RFid (NFC);
- 2624 Word di memoria non volatile (buffer circolare) per data-logging con tempo di campionamento impostabile dall'utente;
- Possibilità di riscaldare l'uscita 4..20mA rispetto all'ingresso;
- Ridotto ingombro;
- Tramite il software RF Programmer (scaricabile dal sito omega.com) e il programmatore TX400-RFID, è possibile:
  - configurare completamente il convertitore;
  - scaricare sul pc il logging registrato;
  - visualizzare e stampare la curva resistenza-tempo / corrente-tempo / tensione-tempo

## 1 Safety guide lines / Norme di sicurezza

Read carefully the safety guidelines and programming instructions contained in this manual before using/connecting the device.

Only qualified personnel should be allowed to use the device and/or service it and in accordance to technical data and environmental conditions listed in this manual.

Do not dispose electric tools together with household waste material. In observance European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Prima di utilizzare il dispositivo, leggere con attenzione le istruzioni e le misure di sicurezza contenute in questo manuale.

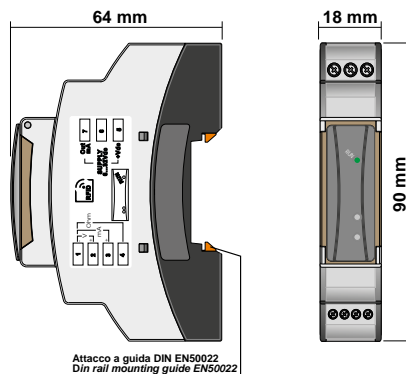
L'utilizzo/manutenzione è riservato a personale qualificato ed è da intendersi esclusivamente nel rispetto dei dati tecnici e delle condizioni ambientali dichiarate.

Non gettare le apparecchiature elettriche tra i rifiuti domestici.

Secondo la Direttiva Europea 2002/96/CE, le apparecchiature elettriche esauste devono essere raccolte separatamente al fine di essere reimpiegate o riciclate in modo eco-compatibile.

## 2 Dimensions / Dimensioni

DIN3880 1 Mod.



omega.com info@omega.com

Service North America:

U.S.A.: Omega Engineering, Inc., One Omega Drive, P.O. Box 4047, Stamford, CT 06907-0047 USA  
Toll-Free: 1-800-826-6342 (USA & Canada only), Customer Service: 1-800-622-2378 (USA & Canada only)  
Engineering Service: 1-800-872-9436 (USA & Canada only),  
Tel: (203) 359-1660, Fax: (203) 359-7700  
e-mail: info@omega.com

For Other Locations Visit [omega.com/worldwide](http://omega.com/worldwide)

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

### WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The purchaser's purchase set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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M5589/0716

2 YEAR  
WARRANTY



OMEGA  
User's Guide

Shop online at  
[omega.com](http://omega.com)<sup>SM</sup>

e-mail: [info@omega.com](mailto:info@omega.com)  
For latest product manuals:  
[omegamanual.info](http://omegamanual.info)



**TXDIN402**  
**DIN Rail Mount Voltage / Current / Resistance Input Transmitter RFID**

### 3 Technical Data / Dati tecnici

#### 3.1 General data / Caratteristiche generali

1	Operating range Range funzionamento	6-32 Vdc
2	Current output Uscita in corrente	4..20 mA (2 wires) / 4..20 mA (2 fili)
3	Functional insulation Isolamento funzionale	1K Vac
4	Output resolution Risoluzione in uscita	2 $\mu$ A
5	Upper Linearity Limit Limite linearità superiore	f.s. + 5°C
6	Lower Linearity Limit Limite linearità inferiore	f.s. - 5°C
7	Failure output Uscita guasto	selectable 21mA, 3,8mA or anyone selezionabile tra 21mA, 3,8mA o nessuno
8	Current output protection Protezione uscita in corrente	30 mA approx. 30 mA circa
9	Rejection / Reiezione	50-60 Hz
10	Max transmission error Max errore di trasmissione	0,1% f.s.
11	EMI	< 0,5%
12	Temperature coefficient Coefficiente di temperatura	< 100 ppm
13	Sampling time Tempo di campionamento	300 ms
14	Response time (10..90%) Tempo di risposta (10..90%)	approx. 600 ms
15	Sealing / Grado di protezione	IP 20
16	Conformity / Normative	CE, EN 61000-6-4, EN 61000-6-2

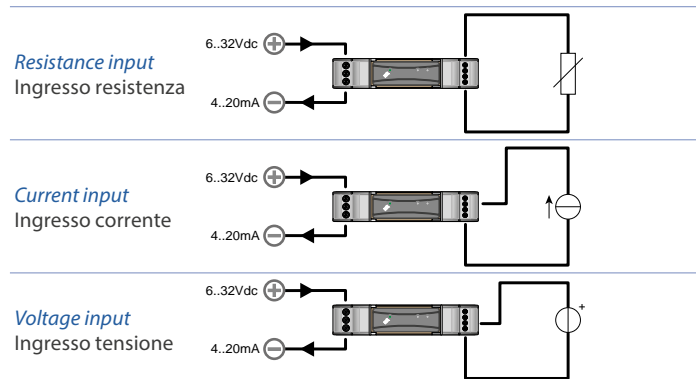
#### 3.2 Thermo-mechanic features / Caratteristiche termomeccaniche

1	Operating temperature Temp. di funzionamento	-40..+85 °C
2	Humidity Umidità	30-90% @ 40°C (non condensing / senza condensa)
3	Storage temperature Temperatura di stoccaggio	-40..+105°C
4	Connections / Connessioni	Screw pins / Morsetti a vite
5	Conductors section Sezione conduttori	1 mm <sup>2</sup>
6	Wires strip Spelatura conduttori	8 mm
7	Enclosure / Custodia	nylon (PA66)
8	Dimensions / Dimensioni	23 mm, Ø 45 mm

### 4 Inputs / Ingressi

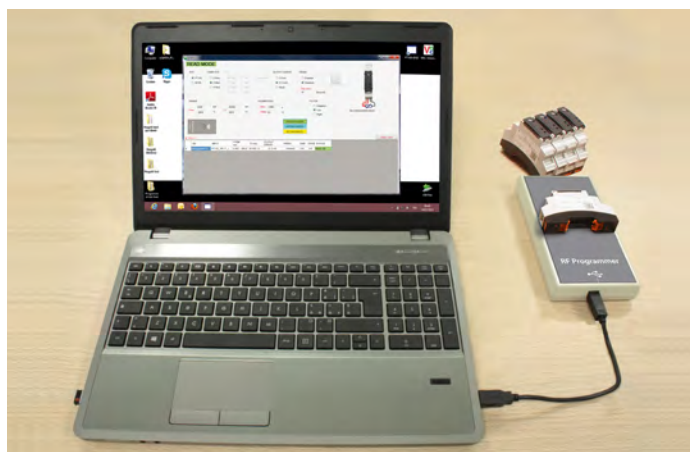
Current input Ingresso corrente	Measuring range: 0..20 mA (default 4 - 20 mA) Range di misura: 0..20 mA (default 4 - 20 mA)
Voltage input Ingresso tensione	Measuring range: 0..10 V Range di misura: 0..10 V
Resistance input Ingresso resistenza	Measuring range: 0..4000 $\Omega$ Range di misura: 0..4000 $\Omega$

#### 4.1 Connections / Connessioni



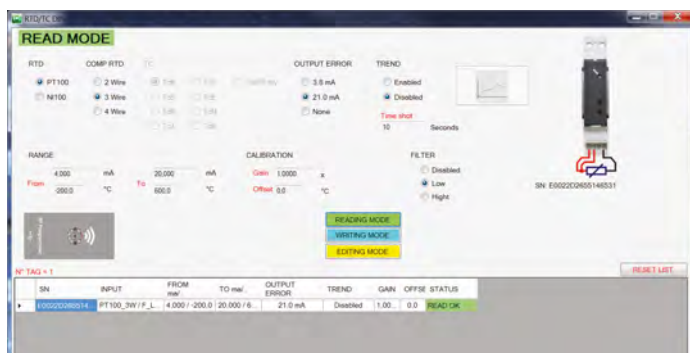
### 5 Configuration / Configurazione

To configure this signal converter it is necessary to use a TX400-RFID and the configuration software RF Programmer, available on [www.omega.com](http://www.omega.com). After connecting the TX400-RFID via USB and activating the software is possible, in "EDIT" mode, to configure the device input sensor, measuring range, output current value and sampling frequency for the registration. The keys "WRITE" and "READ" allow to write and read data on the devices quickly and easily. On the lower side of the display a list of all programmed devices is showed; it can be printed to confirm that the programming has been completed successfully.



La configurazione di questo convertitore di segnale richiede l'utilizzo di un programmatore (TX400-RFID) e del software di configurazione RF Programmer scaricabile dal sito [www.omega.com](http://www.omega.com).

Dopo aver connesso tramite porta USB il TX400-RFID e attivato il software è possibile con la modalità "EDIT" parametrizzare il dispositivo selezionando il tipo di sensore, range di misura, uscita per segnalazione errore e la frequenza di campionamento per la registrazione. Con i tasti "WRITE" e "READ" è possibile scrivere e leggere i vari dispositivi velocemente e in modo agevole. Nella parte bassa dello schermo appare la lista riassuntiva dei dispositivi programmati, che può essere stampata per certificare la buona riuscita delle operazioni.



The input range can be set manually through the button placed under the frontal closing cover. Press this button for 6s to access the configuration mode and set the min. input value (slow flashing LED). Release the button to store the input value which will be related to the min. output value (set on the corresponding parameter, modification is possible only by a specific application, default 4mA). Pressing the button for a further 6s it is possible to set the max. input value (fast flashing LED). Release the button to store the input value which will be related to the max. output value (set on the corresponding parameter, modification is possible only by a specific application, default 4mA). Input / output correspondence can be also set by a linearization table which is editable through a specific software or smartphone application. More instructions are available on the software manual.

La pressione prolungata per 6 secondi permette di accedere alla modalità di configurazione per impostare il valore minimo di ingresso (segnalata dal lampeggio lento del led). Il rilascio del pulsante corrisponde al salvataggio del valore letto in ingresso, che verrà associato al valore minimo di uscita (valore impostato sul parametro corrispondente, la modifica è possibile solo da apposita applicazione, default 4mA). La pressione prolungata per ulteriori 6 secondi permette di impostare il valore massimo di ingresso (segnalata dal lampeggio veloce del led). Il rilascio del pulsante corrisponde al salvataggio del valore letto in ingresso, che verrà associato al valore massimo di uscita (valore impostato sul parametro corrispondente, la modifica è possibile solo da apposita applicazione, default 20mA). La corrispondenza ingresso/uscita è anche impostabile per mezzo di una tabella di linearizzazione la cui modifica è possibile tramite l'apposito software o app per smartphone. Ulteriori istruzioni sono disponibili nel manuale del software.

### 6 Data Logger

This signal converter is provided with a datalogging function for the input signal. Fixing the sampling time (1..3600 seconds) each time the loop 4..20mA powers the device up, this will store the input value into a non-volatile memory. Through the TX400-RFID it is possible to download / display / print all data.

Questo convertitore di segnale è provvisto di una capacità di storicizzazione del segnale in ingresso. Fissando il tempo di campionamento (impostabile tra 1 e 3600 sec.) ogni volta che il loop 4..20mA alimenterà il dispositivo questo archivia il valore in ingresso su una memoria non volatile. Tramite il TX400-RFID è possibile scaricare tutti i dati e presentarli a video o stamparli.