

Introduction / Introduzione

Thanks for choosing a Omega device.

The **TXDIN401** converts a signal obtained from temperature sensors PT100, PT1000 or NI100 (with a 2, 3 or 4 wires connection) into a current signal for 4..20mA loop (2 wires).

Main features are:

- High accuracy;
- 16bit conversion;
- Programmable by RfId (NFC);
- Input -10..+70 mV;
- 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 temperature input value;
- Field calibration to compensate eventual errors (Gain and Offset);
- 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 temperature - time trend

Grazie per aver scelto un prodotto Omega.

Lo strumento **TXDIN401** converte un segnale di temperatura acquisito attraverso sonde PT100, NI100 con collegamento a 2, 3 o 4 fili o TC 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);
- Ingresso -10..+70 mV;
- 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 in temperatura;
- Taratura in campo per recuperare eventuali errori delle sonde (Gain e Offset);
- 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 temperatura - 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.

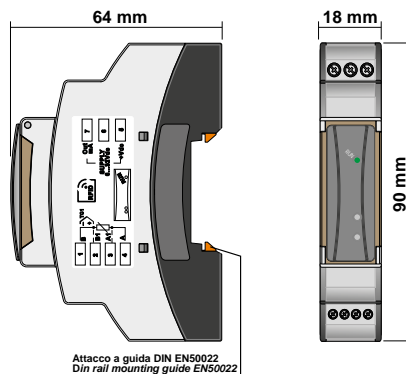
L'utilizzo / manutenzione è riservato a personale qualificato ed è da intendersi esclusivamente nel rispetto dei dati tecnici e delle condizioni ambientali dichiarate.

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

Servicing 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

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 warranties of purchaser 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.

RETURN REQUESTS / INQUIRIES

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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering. OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2015 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

M5588/0716

2 YEAR
WARRANTY



OMEGA
User's Guide

Shop online at
omega.comSM

e-mail: info@omega.com
For latest product manuals:
omegamanual.info



TXDIN401
DIN Rail Mount TC/RTD 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 μ 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 selezione. 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	greater between 0,1% f.s. or 0,2°C maggiore tra 0,1% f.s. o 0,2°C
11	EMI	< 0,5%
12	Cable resistance Resistenza cavi	max 20 Ω
13	Temperature coefficient Coefficiente di temperatura	< 100 ppm
14	Sampling time Tempo di campionamento	300 ms
15	Response time (10..90%) Tempo di risposta (10..90%)	approx. 600 ms
16	Sealing Grado di protezione	IP 20
17	Conformity Normative	CE, EN 61000-6-4, EN 61000-6-2

3.2 Thermo-mechanic features / Caratteristiche termomeccaniche

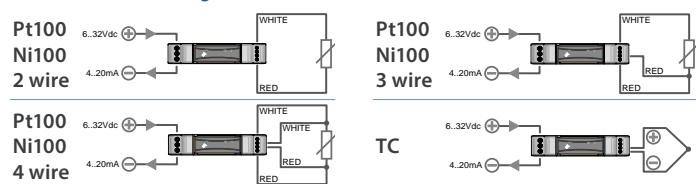
1	Operating temperature Temp. di funzionamento	-40..+85 °C
2	Humidity Umidità	30-90% @ 40°C (non condensing / non condensante)
3	Storage temperature Temperatura magazzino	-40..+105°C
4	Connections Conessioni	screw pins morsetti a vite
5	Conductors section Sezione conduttori	1 mm ²
6	Wires strip Spelatura conduttori	8 mm
7	Enclosure Custodia	nylon (PA66)
8	Dimensions Dimensioni	23 mm, \varnothing 45 mm

4 Input / Ingressi

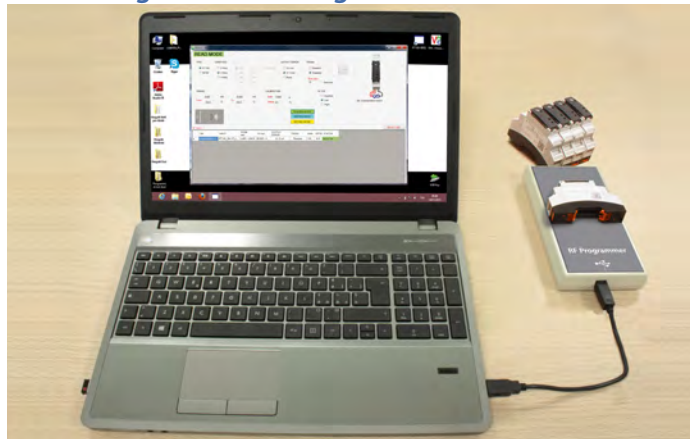
PT100	Measuring range: -200..+600°C / Range di misura: -200..+600°C Connection: 2, 3, 4 wires / Tecnica di collegamento: 2, 3, 4 fili
Ni100	Measuring range: -60..+180°C / Range di misura: -60..+180°C Connection: 2, 3, 4 wires / Tecnica di collegamento: 2, 3, 4 fili
TC K	Measuring range: -260..+1360°C / Range di misura: -260..+1360°C
TC S	Measuring range: -40..+1760°C / Range di misura: -40..+1760°C
TC R	Measuring range: -40..+1760°C / Range di misura: -40..+1760°C
TC J	Measuring range: -200..+1200°C / Range di misura: -200..+1200°C
TC T	Measuring range: -260..+400°C / Range di misura: -260..+400°C
TC N	Measuring range: -260..+1280°C / Range di misura: -260..+1280°C
TC B	Measuring range: +40..+1820°C / Range di misura: +40..+1820°C
TC E	Measuring range: -260..+940°C / Range di misura: -260..+940°C
Input mV	Measuring range: -10..+70mV / Range di misura: -10..+70mV

4.1 Connections / Conessioni

Cables colors according to IEC60751 / Colorazioni cavi come da IEC60751



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. After connecting the TX400-RFID via USB and activating the software, it is possible in "EDIT" mode to configure the device selecting type of sensor, measuring range, output for error signal 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 base programmatore (TX400-RFID) e del software di configurazione RF Programmer scaricabile dal sito 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.



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.

