

Code ST02	Project A37	Release D	Title TECHNICAL DATASHEET
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THESI 310 POSITION CONTROLLER

GENERAL FEATURES

- **THESI 310** position controller can control axis shifting and positioning in 3 different operating modes:
 - MANUAL or SEMI-AUTOMATIC by keyboard
 - AUTOMATIC on the basis of a memorised program.
- Memorisation of up to 99 PROGRAMS with 20 positions each. Up to 99 repetitions can be matched to each position (the program cycle is composed of the position and its respective repetitions).
- 90 Vac to 230 Vac power supply or 24 Vac power supply with selector.
- Manufactured with 16 bit microcontroller, 256K FLASH and 8K RAM memory in single-chip mode.
- 5 Vdc or 12 Vdc encoder input
- Optoisolated inputs
START, STOP, INCREASE CYCLE, DEVIATION, PRESET.
- Voltage-free contact outputs
OK POSITION, ENABLING WITH CONTROL INTERLOCK
FEED / BACK, SLOW / FAST
- ± 10 Vdc analog output
FEED / BACK, SLOW / FAST
- Can be installed on bench or built in.



MECHANICAL AND ELECTRICAL FEATURES

Model	THESI 310
Display	POSITION = 6 high-efficiency digits h = 13 mm and negative sign CYCLES / PROGRAMS = 2+2 high-efficiency digits h = 9 mm
Signal input	2 square waves out of phase $90^\circ \pm 10^\circ$ and zero ref.
Encoder power supply	5 Vdc $\pm 5\%$ oppure 12 Vdc $\pm 5\%$ 120 mA _{MAX}
Axis input frequency	20 kHz _{MAX}
Linear resolution	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 μ m
Memory	permanent for configurations and programs
Power supply	90 to 230 Vac $\pm 10\%$ 50/60 Hz 24 Vac $\pm 10\%$ 50/60 Hz
Power	10 W _{MAX}
Current consumption	50 mA _{MAX} (230 Vac) – 400 mA _{MAX} (24 Vac)
Digital outputs	N.O. relay contacts: 240 Vac _{MAX} – 2 A _{MAX} – 15 VA _{MAX}
Analog output	± 10 Vdc optoisolated
Inputs	optoisolated
Connections	by removable terminal block
Dimensions (DIN 43700)	front panel: 72x 44 mm – depth: 126 mm
Protection class (EN 60529)	keyboard IP 65 rear panel IP 40
Operating temperature	0° \div 50°C
Storage temperature	-20° \div 70°C
Weight	650 g

ORDERING CODE

MODEL	OUTPUTS	ENCODER POWER SUPPLY
THESI 310	DI	05V

DI = relay (digital)
AN = analog

05V
12V

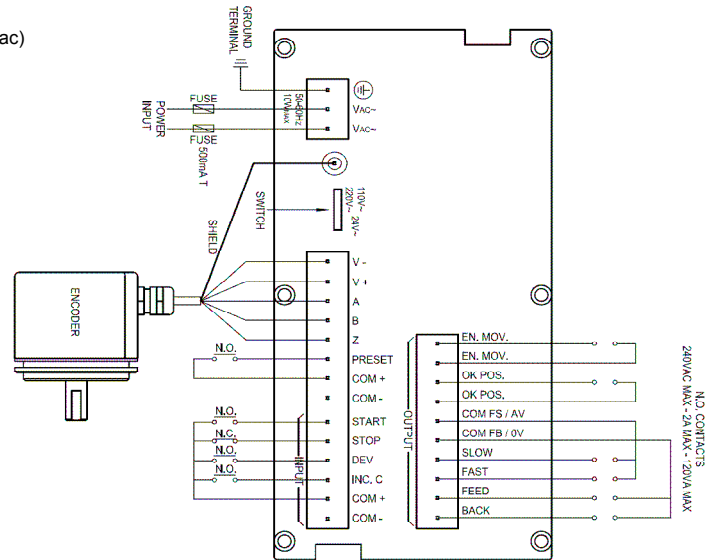
Example  **POSITIONER THESI 310 DI 05V**

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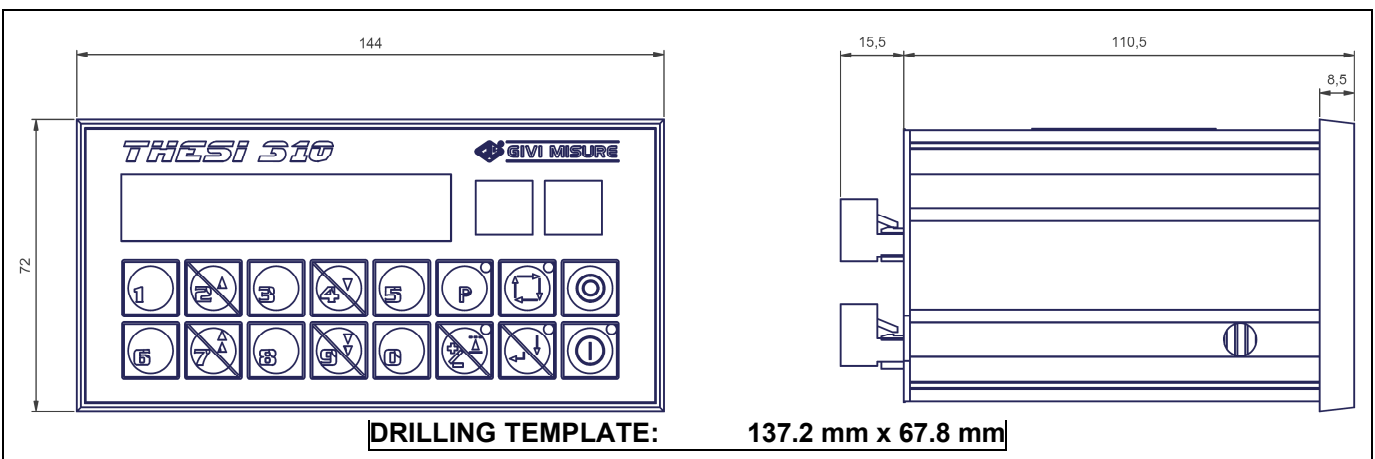
CONNECTIONS

LEGEND

POWER INPUT	= AC voltage power supply (220 Vac, 110 Vac, 24 Vac)
FUSE	= External fuses
GROUND TERMINAL	= Protection ground
SWITCH	= AC voltage power supply selector 110/220 Vac or 24 Vac
V+	= Encoder power supply output (5 V or 12 V)
V-	= Encoder power supply output (0 V)
A	= Encoder channel A input
B	= Encoder channel B input
Z	= Encoder channel Z input (zero reference)
COM+	= Positive input common (12 Vdc)
COM-	= Negative input common (0 Vdc)
PRESET	= Position PRESET input
START	= START input
STOP	= STOP input
DEV	= DEVIATION input
INC.C	= INCREASE CYCLE input
EN. MOV.	= MOVEMENT ENABLE contact
OK POS.	= OK POSITION contact
COM FS / AV	= FAST/SLOW (DIG) contacts common or ± 10 Vdc analogue output (ANG)
COM FB / 0V	= FEED/BACK (DIG) contacts common or 0 V analogue contact (ANG)
SLOW	= SLOW contact
FAST	= FAST contact
FEED	= FEED contact
BACK	= BACK contact



DIMENSIONS



WARNING

- The instrument must be installed only by specialised personnel in observance of the instructions provided by the Manufacturer.
- We recommend using a mains power supply provided with an *input filter and fuses*; the power distribution network to which the instrument is connected must be equipped with a sectioning device in compliance with the laws in force in its vicinity.
- In order to prevent fire or explosion, the instrument must never be used in the presence of flammable gas, solvents, explosives, etc.
- The operation of this instrument without first ensuring that the machine to which it will be applied complies with 98/37/EC Directive is prohibited.
- All equipment connected to the instrument must have insulation characteristics in compliance with the regulations in force.
- The instrument must never be opened by non-specialised personnel and never with mains power connected.
- The front panel must be cleaned only after first disconnecting power supply using a moist cloth and never solvent for the purpose.
- Scrupulously follow the instructions provided by the Manufacturer when installing the optical scale (or encoder).