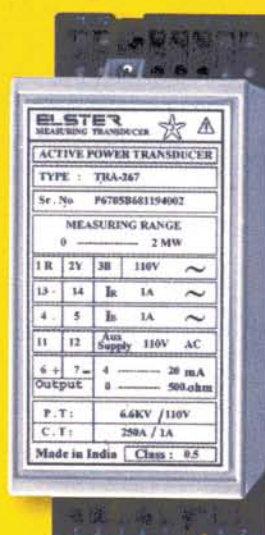




Elster Transducers



Discover the value of the diamond

ELSTER 

POWER				PHASE ANGLE		TRANSFORMER TAP POSITION TRANSDUCER
Active	TRA 261	TRA 263/267 TRA 287 Dual Output	TRA 265/269 TRA 289 Dual Output	TRA 231	TRA 232	TRA 511
Reactive		TRA264/268 TRA 288 Dual Output	TRA266/270 TRA 290 Dual Output			
System	1 Phase	3 Phase / 3 Wire (balanced-1 Ele/- unbalanced-2 Ele)	3 Phase / 4 Wire (balanced-1 Ele/- unbalanced-3 Ele)	3 Phase 3 Wire	1 Phase 3 Phase/4 Wire	TRA 512 Dual Output
0-P _{in} / ± P _{in} Pin any value between 0.5 to 1.5 times apparent power. Refer characteristic				- 60° - 0 - + 60°		
0-1/5A & 63.5/110/220/380/440V				63.5/110/220V & 0-1/5A		From potentiometric transformer tap position indicator up to 99 transformer Taps. 100k Ω max (4 selectable inputs i.e. 10/100/300/1000 Ω / Tap)
50Hz/60Hz				50Hz / 60Hz		Not applicable
E _{in} X 2mA per voltage path & 0.5VA per current path				E _{in} X 2mA per voltage path & 0.5VA in current path		Not applicable
1.2 times for voltage 2 times for current				1.2 times for voltage 2 times for current		Not applicable
40 times for 0.5 sec. - current 4 times for 1 sec. - voltage				40 times for 0.5 sec. - current 4 times for 1 sec. - voltage		Not applicable
2.5/5/10/20mA & 4-20mA (Live Zero) Bi-polar outputs possible for active/reactive Power 0-5/10V				2.5/5/10/20mA & 4-20mA 0-5/10V		5/10/20mA & 4-20mA 0-5/10V
$\leq \frac{10V}{I_{out}}$ $\geq \frac{V_{out}}{5mA}$				$\leq \frac{10V}{I_{out}}$ $\geq \frac{V_{out}}{5mA}$		$\leq \frac{10V}{I_{out}}$ $\geq \frac{V_{out}}{5mA}$
< 0.5%				< 0.5%		< 0.5%
≤ 20V				≤ 20V		≤ 20V
< 500m sec.				< 500m sec.		< 500m sec.
0.5				0.5		0.5
0-55°C				0-55°C		0-55°C
3kV, 50Hz - 1 min. for voltage 4kV, 50Hz - 1 min. for current				3kV, 50Hz - 1 min. for voltage 4kV, 50Hz - 1 min. for current		--
Self-powered or 110/220V AC or 24/48/60/110V/220V DC				Self-powered or 110/220V AC or 24/48/60/110V/220V DC		110/220V AC or 48V DC
D/E				D		D

Some of the major supplies have been to :

- | | | | | | |
|-----------------------|-----------------|------------------------------|-------------------|-----------------------|------------------|
| ■ Alstom Systems Ltd. | ■ Grasim Cement | ■ ITC | ■ NPCIL | ■ Reliance Industries | ■ Tata Honeywell |
| ■ APSEB | ■ GEB | ■ Kutch Lignite Thermal Stn. | ■ NTPC | ■ Siemens | ■ TISCO |
| ■ Alstom Ltd. | ■ Gridco | ■ L&T | ■ PGCIL | ■ Schneider Electric | |
| ■ BHEL | ■ IOCL | ■ Nelco | ■ Reliance Energy | ■ Tata Electric Co. | |

TEMPERATURE TRANSDUCER	INTEGRATOR**	SUMMATION AMPLIFIER**
TRA 530 Single Output	TRA 521**	TRA 441**
0-60°/100°/300° *	0-I _{in} /E _{in} DC	0-I _{in} /E _{in} DC 4 inputs
RTD PT - 100 Ω	0-2.5/5/10/20mA 4-20mA 0-5/10V DC	2.5/5/10/20mA 4-20mA Bidirectional
Not applicable	DC	DC
Not applicable	Approx. 0.5V for I _{in} & 0.1mA for E _{in}	0.5V X I _{in}
Not applicable	2 times	2 times
Not applicable	--	--
2.5/5/10/20mA & 4-20mA 0-5/10V	O/P Pulses 0—0.5Hz to 2KHz	0-2.5/5/10/20mA 4-20mA Bidirectional
$\leq \frac{10V}{I_{out}}$ $\geq \frac{V_{out}}{5mA}$	Not applicable	$\frac{0 - 10V}{I_{out}}$
< 0.5%	Not applicable	< 0.5%
≤ 20V	--	≤ 20V
< 500m sec.	--	< 500m sec.
0.5	0.5	0.5
0-55°C	0-55°C	0-55°C
Not applicable	1kV, 50 Hz - 1 min.	No Isolation
110/220V AC	110/220V AC	110/220V AC
D	C	D

**Specified Conditions
of measurement:**

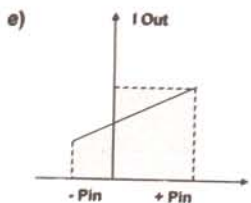
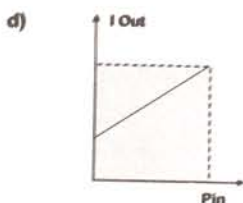
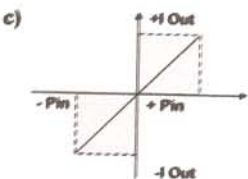
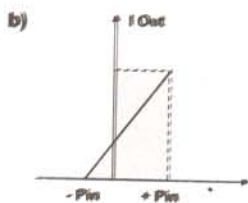
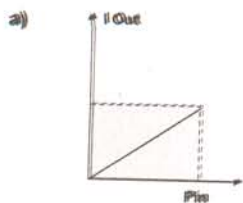
Ambient Temperature : 25°C ± 2°C

Frequency : 50Hz/60Hz ± 0.5%

Load : 0.5 Rout

Warm uptime : 20 minutes

Auxilliary Supply : Supply Voltage ± 2%



Elster Transducers are manufactured to internationally acclaimed proven designs for unbeatable reliability. So that, little extra invested today, will give more savings in the long run.

Elster Transducers find a wide range of applications in virtually every sector of the power and process industry and is backed by Elster's proven experience and expertise, in the field for over two decades.

ELSTER - PIONEERS AND LEADERS IN THE FIELD OF TRANSDUCERS

Several thousand Elster Transducers are in operation in the service sectors. In fact, Elster Transducers have become synonymous with quality and reliability.

FEATURES:

- Confirms to IEC60688 & IS12784
- High accuracy - Class 0.5
- Exceptional reliability
- Exceptional long-term stability
- High input/output isolation
- Output short circuit/Open circuit protection
- Load independent output
- Current or Voltage output
- Single or Dual outputs
- Choice of auxiliary power supply voltage (AC/DC)
- Low internal consumption

- No zero/span adjustments required
- Compact/Rugged design
- DIN Rail and/or Wall mounting type
- Easy installation/maintenance-free

APPLICATION

Elster Transducers find a wide range of applications, in telemetering, supervisory control and data acquisition systems for energy management, process control and other applications, where accurate and reliable monitoring of electrical parameters is desired, such as power generation, transmission, distribution and in industries as diverse as cement, steel, chemicals, fertilizers, sugar and petrochemicals & paper.

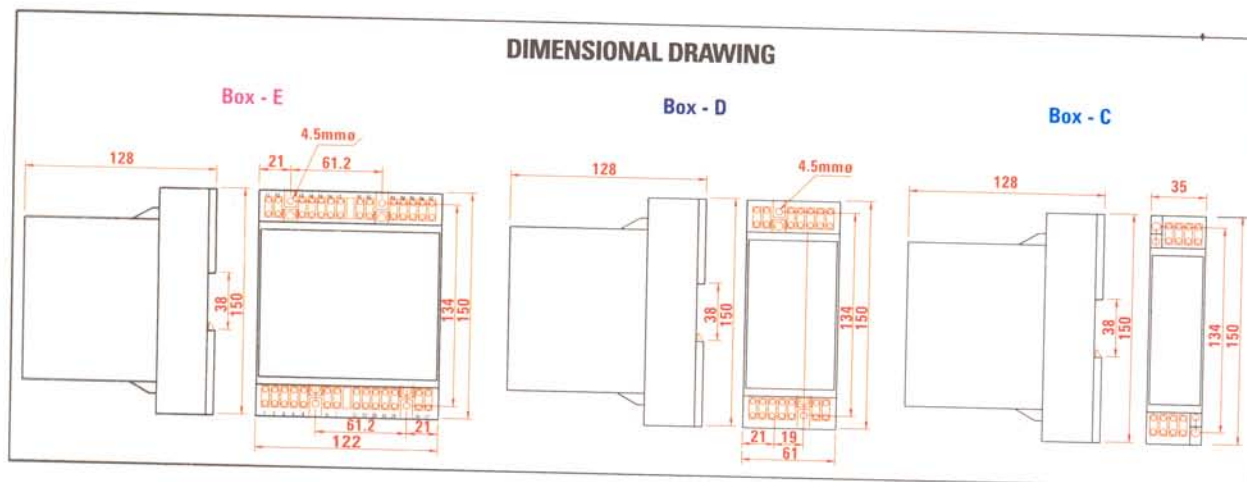
RANGE OF TRANSDUCERS

- For currents (AC & DC)
- For voltages (AC & DC)
- For power-active/reactive
- For frequency
- For phase angle

Other special types include summation amplifiers for totalising power, integrators for energy measurement, limit monitors and dual output units, transformer tap position transducers and temperature transducers.

Other special electrical transducers as per customer requirement.

DIMENSIONAL DRAWING



Box C	>	Size (W x D X H)	35 mm x 128 mm x 150 mm
Box D	>	Size (W x D X H)	61mm x 128 mm x 150 mm
Box E	>	Size (W x D X H)	122 mm x 128 mm x 150 mm

Elster Metering is the new group formed from the acquisition of ABB's global metering business. Elster Metering is part of the world's largest dedicated metering company, combining the market leaders in electricity, water and gas metering. Elster Metering employs approximately 3500 employees working in 33 production and sales offices in 32 countries.

Elster Metering has a tradition of manufacturing & marketing metering products & services that use cutting edge technology.

We continue to bring value to our customers by providing the innovative solutions they need to face an ever changing energy market.

EXPORT :

We are exporting Transducers to various countries, where they have been performing satisfactorily since 1996.

Elster Transducers are used in following countries

- | | | | | |
|-------------|------------|-------------|----------------|----------------|
| ■ Argentina | ■ China* | ■ Finland | ■ Hongkong | ■ Jordan |
| ■ Malaysia | ■ Portugal | ■ Romania | ■ Saudi Arabia | ■ South Africa |
| ■ Thailand | ■ Turkey | ■ Venezuela | | |

Other Products include :

Alpha Energy Meter

- For Industrial & Commercial Utility customers
- For Wind Mill & Captive Power Plant (CPP) Applications
- MODBUS Application
- For ABT Application (Grid Meter)

System Software



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