

TSC Transtech Signal Conditioners



AUSTRALIAN DESIGNED
AND MANUFACTURED



2008 EDITION



Industrial



Process



Mining

Cost Effective Solutions
Galvanic Isolation as Standard
Full Input Range
Field Adjustable
0.1% Accuracy
Dual Rail Mounting



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TRANSTECH

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SELECTION GUIDE



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INPUTS	TRANSMITTERS / TRANSMITTERS & TRIP			TRIP MODULES
	2-WIRE	4-WIRE		4-WIRE
	LOOP POWERED (12-45Vdc)	24Vdc, 24Vac, 120Vac, 240Vac		OUTPUT
	OUTPUT	TRANSMITTER	TRANSMITTER/TRIP	Dual Trip
	4-20mA (1-5Vdc on request)	0-10Vdc Plus customer output	0-10Vdc Single Trip Plus customer output	
AC CURRENT 	LPSC-ACI 0-1 & 0-5Amp	TSC-ACI 0-1 & 0-5Amp	TCT-ACI 0-1 & 0-5Amp	PTD-BRK (0-1 Amp) (Half Wave Rect.)
AC VOLTAGE 	LPSC-ACV 0-600Vac 50V Min Span	TSC-ACV 0-600Vac 1V Min Span	TSCT-ACV 0-600Vac 1V Min Span	
SWITCH/PULSE/PROX 		TSC-HZ 0-10KHz 30Hz Min Span	TSCT-HZ 0-10KHz 30Hz Min Span	
RTD (Linearised) 	LPSC-RTD 0-600°C 40°C Min Span	TSC-RTD 0-850°C 30°C Min Span	TSCT-RTD 0-850°C 30°C Min Span	
SLIDEWIRE or TAP CHANGERS 	LPSC-SW 0-100KOhm 100 Ohm Min Span	TSC-TP TSC-SW 0-100KOhm 100 Ohm Min Span	TSCT-SW 0-100KOhm 100 Ohm Min Span	
THERMOCOUPLE 	LPSC-TC 0-1600°C 8mV Min Span	TSC-TC 0-1600°C 8mV Min Span	TSCT-TC 0-1600°C 8mV Min Span	
TX DRIVER 		TSC-TX PSC-TX 24Vdc (Selectable I/O)	TSC-TX PSC-TX 24Vdc (Selectable I/O)	
DC MILLIAMPS 	LPSC-VC 0-50mA 1mA Min Span	TSC-VC 0-50mA 1mA Min Span	TSCT-VC 0-50mA 1mA Min Span	PTS-VC 24Vdc PTD-VC 24Vdc Selectable Trips
DC mV/VOLTS 	LPSC-VC 0-300Vdc 5mV Min Span	TSC-VC 0-300Vdc 1mV Min Span	TSCT-VC 0-300Vdc 1mV Min Span	PTS-VC 24Vdc PTD-VC 24Vdc Selectable Trips
ISOLATORS 	LRS/LRD (Loop Repeaters) 4-20mA/4-20mA			PTD-WIN 110Vdc (mA Window)
ISOLATORS POWERED 		LRD-24Vdc (Loop Repeater) (2 Channel)		
AUDIO MONITOR 				PAM-01 (Powered Monitor) PAM-02 (Field Mounted Monitor)

Two-wire Transmitters / Loop Powered Signal Conditioners



LPSC-

Two-wire Loop Powered Isolated Transmitters

Application:

The LPSC series draw their energy from the 4-20mA loop and provide a proportional 4-20mA output signal relative to the input to feed into PLC's and DCS systems.

Features:

Galvanic Isolation to 2,500 Vrms
Compact DIN rail housing
External monitoring Points
External span and zero adjustment

Inputs:

VC mA or mV or Volt dc
ACI current (1 and 5 amps)
ACV voltage (up to 300vac)
RTD (2,3wire all PT type)
SW (slidewire)
TC (thermocouple - all types)

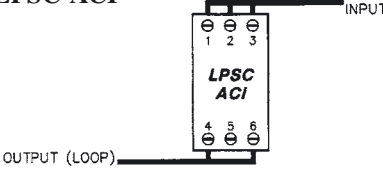
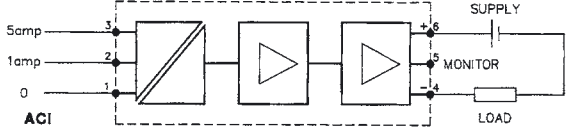
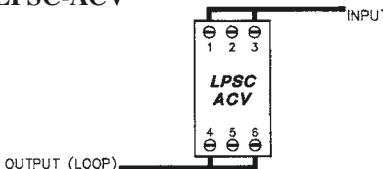
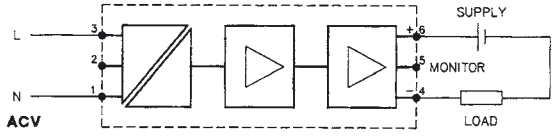
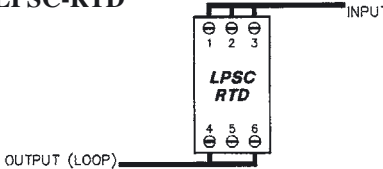
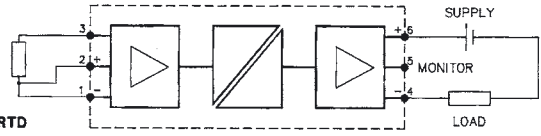
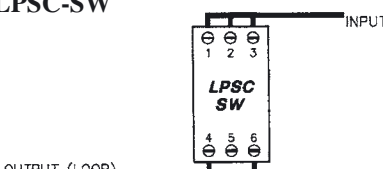
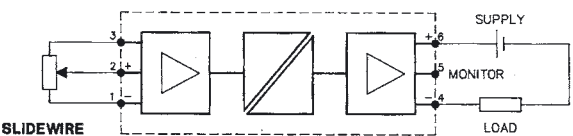
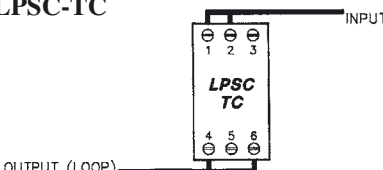
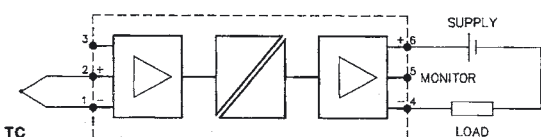
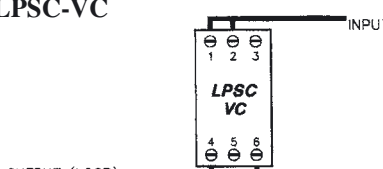
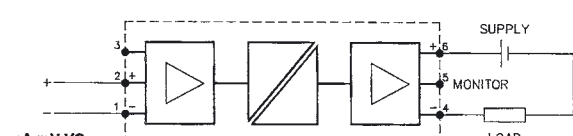
Mechanical:

Operating Temp 0 / 60 deg C
 Storage Temp -25 / 75 deg C
 Housing Material Krilen
 Mounting DIN or G rail
 Size mm (h x w x d) 85 x 79 x 25
 Weight 130grams approx

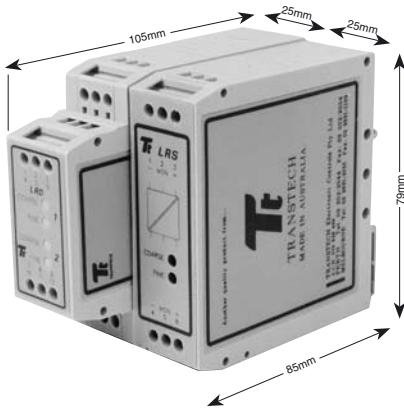
Electrical:

Loop Voltage 12 to 45volts
 Output 4-20mA
 Loop Load 1650ohms @45Vdc
 Isolation 2500vrms
 Linearity 0.1% of span
 Common Mode 110dB
 Accuracy 0.1% of span
 Drift Less 0.1% 10,000hrs
 Response Time 250usec (step 10-90%)

CONNECTION INFORMATION

TYPICAL RANGE	TERMINAL CONNECTIONS	SCHEMATIC CONNECTIONS
0-1 Amp or 0-5 Amp (Field Selected)	LPSC-ACI 	
0-600 Vac (max) (any range between) (Factory Set)	LPSC-ACV 	
Up to 850°C (max) PT-100 Ni-100 Cu-10 Others available (Factory Set)	LPSC-RTD 	
0-10K Ohms (max) 3 wire potentiometers (any range between) (Factory Set)	LPSC-SW 	
Up to 1600°C (max) E, J, K, N, S, T, R Others available (Factory Set)	LPSC-TC 	
Up to 300Vdc (max) Up to 50mA (max) Others available (Factory Set)	LPSC-VC 	

Loop Repeaters and Powered Dual Trip Modules



LRS or LRD

Loop Powered isolators or repeaters

LRS = single channel in/out

LRD = dual channel in/out

Application:

The **LRS & LRD** series draw their energy from the input 4-20mA loop and repeat that 4-20mA as a fully isolated 4-20mA or 1-5Vdc.

Features:

- Galvanic Isolation to 2,500 Vrms
- Compact DIN rail housing
- External monitoring Points
- External span and zero adjustment

Inputs:

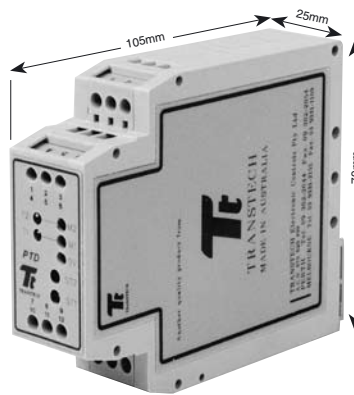
- LRS** mA single input/output
- LRD** mA dual input/output – may also be set for single input with dual 4-20mA outputs

Mechanical:

- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 85 x 79 x 25
- Weight 100 grams approx

Electrical:

- Loop Voltage 12 to 45volts
- Output 4-20mA into 400 ohms
- Isolation 2500vrms
- Linearity 0.1% of span
- Common Mode 110dB
- Accuracy 0.1% of span
- Drift Less 0.1% 10,000hrs
- Response Time 250usec (step 10-90%)



PTD or PTS

Trip modules with in-built power supply of 24Vdc, accepting most instrument signal inputs and giving a changeover relay trip output

PTS = single relay output

PTD = dual relay output

Application:

The **PTS & PTD** have an isolated power supply from the input loop and provide either a single relay or two relay trip output.

Features:

- Full Isolation to 2,500 Vrms
- Compact DIN rail housing
- External monitoring points
- External Trip adjustment
- Indication by LED's on front panel

Inputs:

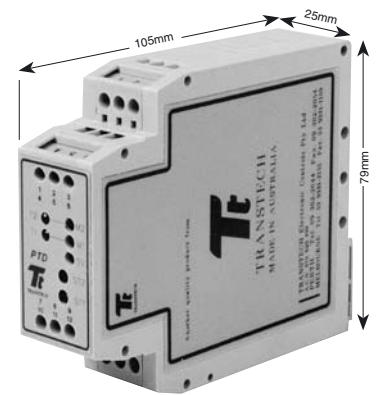
- PTS** mA, mV, Vdc input/relay output
- PTD** mA, mV, Vdc input/dual output

Mechanical:

- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 85 x 79 x 25
- Weight 100 grams approx

Electrical:

- Loop Voltage 12 to 45volts
- Output 4-20mA into 400 ohms
- Isolation 2500vrms
- Linearity 0.1% of span
- Common Mode 110dB
- Accuracy 0.1% of span
- Drift Less 0.1% 10,000hrs
- Response Time 250usec (step 10-90%)



PTD-BRK

A specially designed trip amplifier with a 22 – 60Vdc power supply, accepting half-wave ACI and giving an alarm outside a window setting, provides a changeover relay trip output

Application:

The **PTD-BRK** has an isolated power supply and takes a half-wave rectified current from a brake solenoid and provides a single relay output if the current is outside the “window” setting.

Features:

- Full Isolation to 2,500 Vrms
- Compact DIN rail housing
- External monitoring points
- External Trip adjustment
- Indication by LED's on front panel

Inputs:

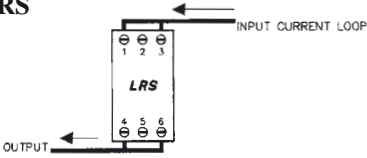
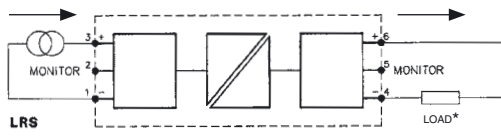
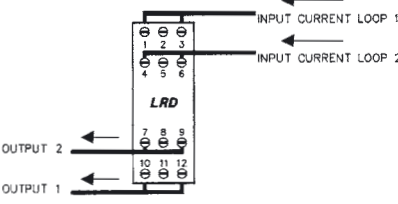
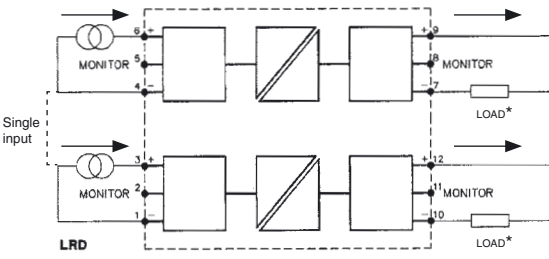
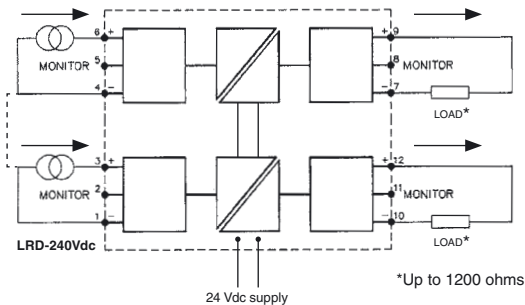
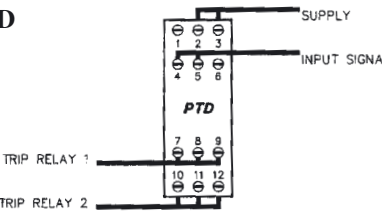
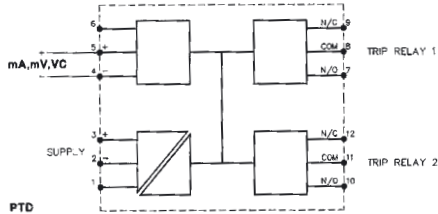
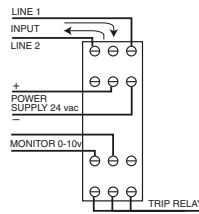
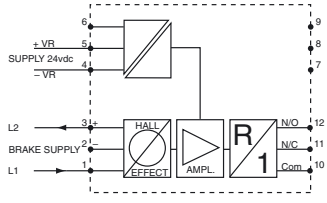
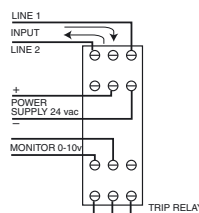
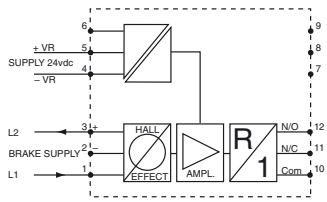
- PTD-BRK** Half-wave current
- PTD-VAM** Audio current monitor for conveyor pre-alert

Mechanical:

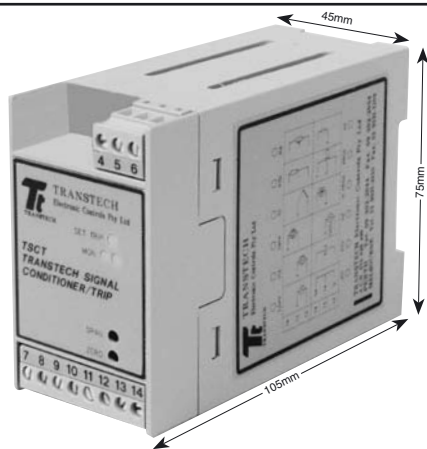
- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 85 x 79 x 25
- Weight 100 grams approx

Electrical:

- Supply: 22-60Vdc
- Input Up to 1 amp half-wave
- Output Changeover Relay
- Isolation 2500vrms
- Common Mode 110dB
- Response Time 250usec (step 10-90%)

TYPICAL RANGE	TERMINAL CONNECTIONS	SCHEMATIC CONNECTIONS
Input 4-20mA Output 4-20mA (repeat of input)	LRS 	 <p>*Restricted ohms</p>
Input 4-20mA Link 3-4 for Single 4-20mA Input Dual Outputs 4-20mA (repeat of inputs)	LRD 	 <p>*Restricted ohms</p>
Inputs 4-20mA Link inputs for Single 4-20mA Input Dual Outputs 4-20mA	LRD-24VDC See pages 8 & 9. "Powered Loop Splitter"	 <p>24 Vdc supply</p> <p>*Up to 1200 ohms</p>
Up to 50mA Up to 10Vdc (Others available) May be connected in series or parallel for multiple trips. (Factory Set)	PTD 	
Up to 1 Amp Settable "window" for monitoring drum or disc brake solenoids.	PTD-BRK 24VDC 	
mA Settable to monitor audible warning plant speakers for conveyor start-up. See also page 8 for PAM-01 and PAM-02.	PTD-VAM 	

Powered Signal Conditioners



TSC-

Mains Powered 120 or 240vac plus 24Vdc transmitters

Application:

The TSC series accept most instrument inputs and provide a proportional 4-20mA and 0-10Vdc output.

Features:

- 3 Port Isolation to 2,500 Vrms
- Compact DIN rail housing
- Plug off terminals
- In-built ACV supply 120/240v
- 0-10Vdc output
- External monitoring Points
- External span and zero adjustment

Inputs:

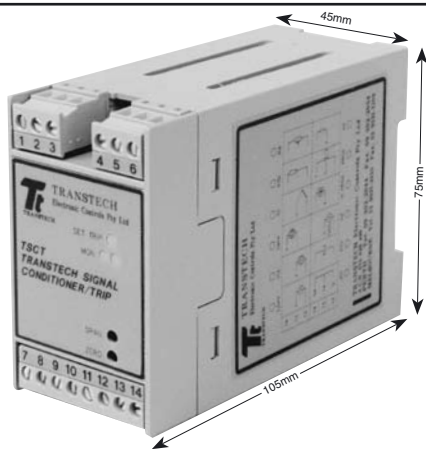
- VC mA or mV or Volt dc
- ACI current (1 and 5 amps)
- ACV voltage (up to 300vac)
- HZ switch, prox, encoder
- RTD (2,3wire all PT type)
- SW (slide-wire)
- TC (thermocouple - all types)
- TP tap changing up to 18 steps
- TX Transmitter driver

Mechanical:

- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 105 x 45 x 75
- Weight 130grams approx

Electrical:

- Supply Voltage 120 / 240vac 24Vdc
- Supply HZ 45 – 60Hz
- Output most ranges
- Loop Load 1650 ohms
- Isolation 2500vrms
- Linearity 0.1% of span
- Common Mode 110dB
- Accuracy 0.1% of span
- Drift Less 0.1% 10,000hrs
- Response Time 250usec (step 10-90%)



TSCT-

Mains Powered 120 or 240vac plus 24Vdc transmitters with a single changeover relay output.

Application:

The TSCT series accept most instrument inputs and provides a proportional 4-20mA and 0-10Vdc output with a single changeover relay.

Features:

- 3 Port Isolation to 2,500 Vrms
- Compact DIN rail housing
- Plug off terminals
- In-built ACV supply 120/240v
- 0-10Vdc output
- External monitoring Points
- External span and zero adjustment

Inputs:

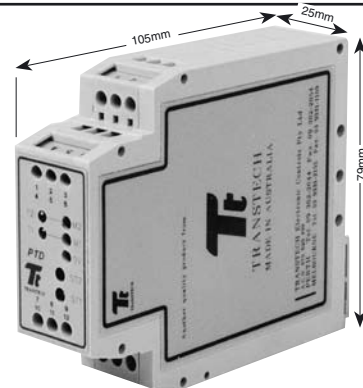
- VC mA or mV or Volt dc
- ACI current (1 and 5 amps)
- ACV voltage (up to 300vac)
- HZ switch, prox, encoder
- RTD (2,3wire all PT type)
- SW (slide-wire)
- TC (thermocouple - all types)
- TP tap changing up to 18 steps
- TX Transmitter driver

Mechanical:

- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 105 x 45 x 75
- Weight 130grams approx

Electrical:

- Supply Voltage 120 / 240vac 24 Vdc
- Supply HZ 45 – 60Hz
- Output most ranges
- Loop Load 1650 ohms
- Isolation 2500vrms
- Linearity 0.1% of span
- Common Mode 110dB
- Accuracy 0.1% of span
- Drift Less 0.1% 10,000hrs
- Response Time 250usec (step 10-90%)



PSC-TX

Powered 24VDC field adjustable 0-20mA transmitter / repeater

Application:

The PSC-TX 24VDC accept a 0(4)-20mA input active or passive and provides a proportional 4-20mA output.

Features:

- Cost Effective 4-20mA repeater
- Configurable input active/passive
- 3 Port Isolation to 2,500 Vrms
- Compact DIN rail housing
- 24VDC supply isolated
- External monitoring Points
- External span and zero adjustment

Inputs:

mA input or drives a two wire transmitter. Accepts voltages also.

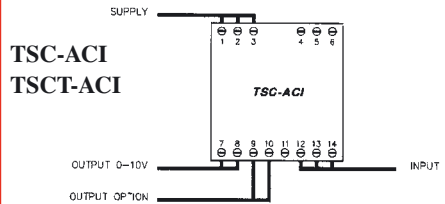
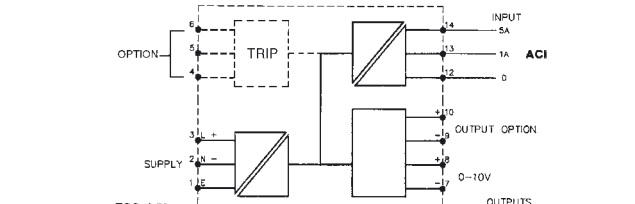
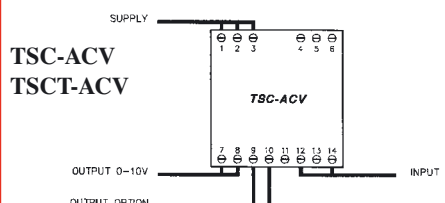
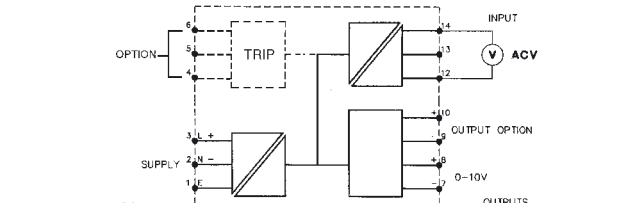
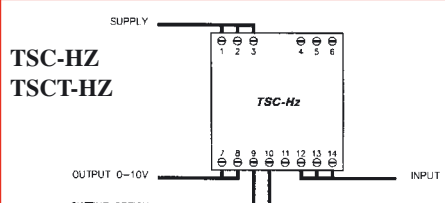
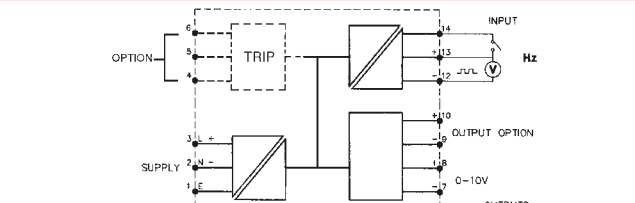
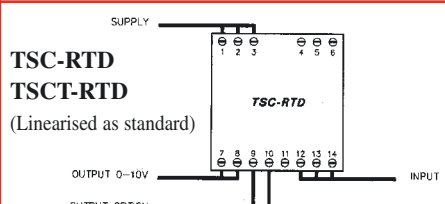
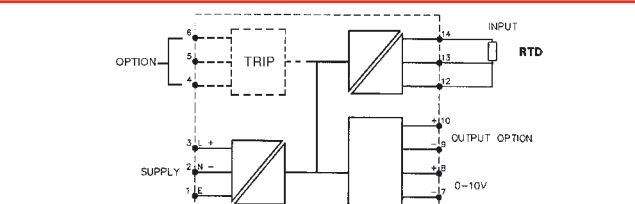
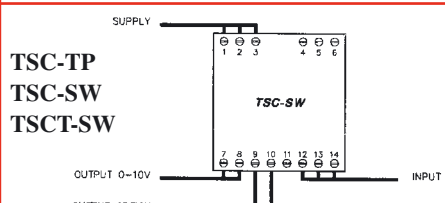
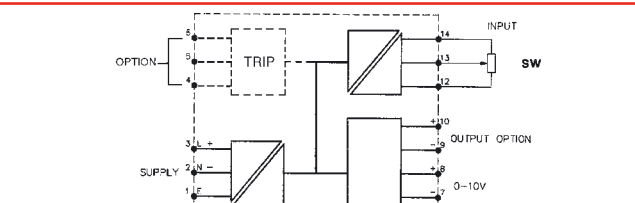
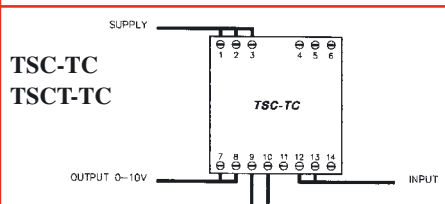
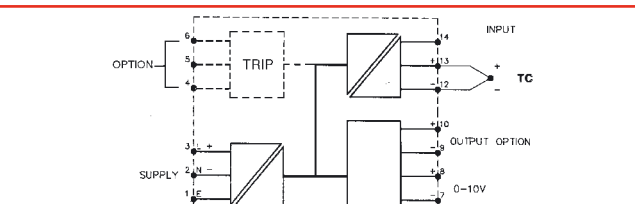
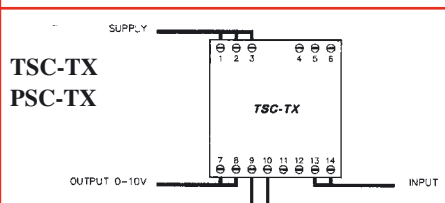
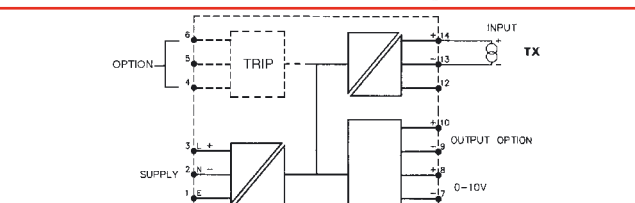
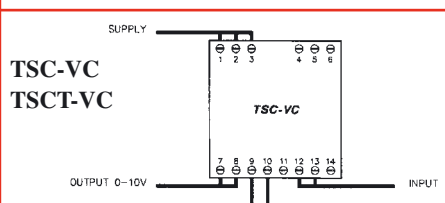
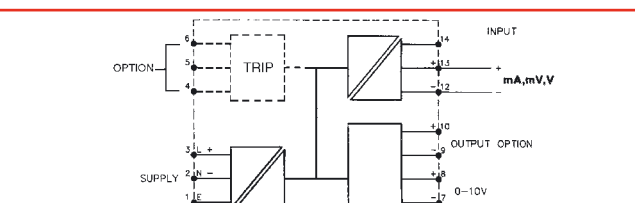
Mechanical:

- Operating Temp 0 / 60 deg C
- Storage Temp -25 / 75 deg C
- Housing Material Krilen
- Mounting DIN or G rail
- Size mm (h x w x d) 105 x 45 x 75
- Weight 130grams approx

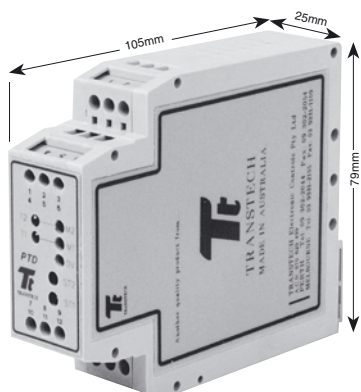
Electrical:

- Supply Voltage 24Vdc
- Output most ranges
- Loop Load 1650 ohms
- Isolation 2500vrms
- Linearity 0.1% of span
- Common Mode 110dB
- Accuracy 0.1% of span
- Drift Less 0.1% 10,000hrs
- Response Time 250usec (step 10-90%)

CONNECTION INFORMATION

TYPICAL RANGE	TERMINAL CONNECTIONS	SCHEMATIC CONNECTIONS
0-1Amp or 0-5Amp (Field Selected)	 <p>TSC-ACI TSCT-ACI</p>	 <p>TSC-ACI</p>
0-600Vac (Max) any range between (Factory Set)	 <p>TSC-ACV TSCT-ACV</p>	 <p>TSC-ACV</p>
Up to 10KHz (Max) (any range between) Proximity Encoder Switch (Volt Free) (Factory Set)	 <p>TSC-HZ TSCT-HZ</p>	 <p>TSC-Hz</p>
Up to 850°C (Max) PT-100 PT-200 Ni-100 Cu-10 Others available (Factory Set)	 <p>TSC-RTD TSCT-RTD (Linearised as standard)</p>	 <p>TSC-RTD</p>
0-10K Ohms (Max) 3 wire potentiometers (any range between) (Factory Set)	 <p>TSC-TP TSC-SW TSCT-SW</p>	 <p>TSC-SW</p>
Up to 1600°C (Max) E, J, K, N, S, T, R Others available (Factory Set)	 <p>TSC-TC TSCT-TC</p>	 <p>TSC-TC</p>
0-10Vdc 0-50mA (selectable) Drive Output (TX) or Active Input (RX) (Sink or Source) (Field Set)	 <p>TSC-TX PSC-TX</p>	 <p>TSC-TX</p>
Up to 300Vdc (Max) Up to 50mA (Max) Others available (Factory Set)	 <p>TSC-VC TSCT-VC</p>	 <p>TSC-VC</p>

Powered Loop Repeater & Dual Output Signal Conditioner



LRD-24VDC

Powered isolator or loop repeater
LRD = dual channel in/out

Application:

The **LRD-24VDC** allows either a single or two 4-20mA inputs to be repeated as fully isolated 4-20mA or 1-5Vdc into loads exceeding 1200 ohms.

Features:

- Galvanic Isolation to 2,500 Vrms
- Compact DIN rail housing
- External monitoring Points
- External span and zero adjustment

Inputs:

LRD-24VDC dual input/output. May also be set for single input with dual 4-20mA outputs

Outputs:

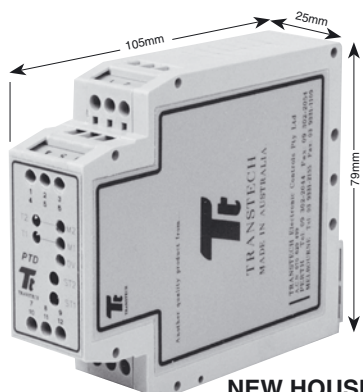
All standard instrument types

Mechanical:

Operating Temp	0 / 60 deg C
Storage Temp	-25 / 75 deg C
Housing Material	Krilen
Mounting	DIN or G rail
Size mm (h x w x d)	85 x 79 x 25
Weight	100 grams approx

Electrical:

Supply Volts	22 – 36Vdc
Output	4-20mA into 1200 ohms
Isolation	2500vrms
Linearity	0.1% of span
Common Mode	110dB
Accuracy	0.1% of span
Drift	Less 0.1% 10,000hrs
Response Time	250usec (step 10-90%)



NEW HOUSING
DUE JAN '09

PSC-VCD

Mains Powered 85 - 240vac and
 12 – 60Vdc transmitters

Application:

The **PSC-VC** series accept most instrument inputs and provide a proportional analogue output.

Features:

- 3 Port Isolation to 2,500 Vrms
- Compact DIN rail housing
- Plug off terminals
- In-built ACV supply Universal 85-250V
- External monitoring Points
- External span and zero adjustment

Inputs:

VC	mA or mV or Volt dc
ACI	current (1 and 5 amps)
ACV	voltage (up to 300vac)
HZ	switch, prox, encoder
RTD	(2,3wire all PT type)
SW	(slide-wire)
TC	(thermocouple - all types)
TX	Transmitter driver

Outputs:

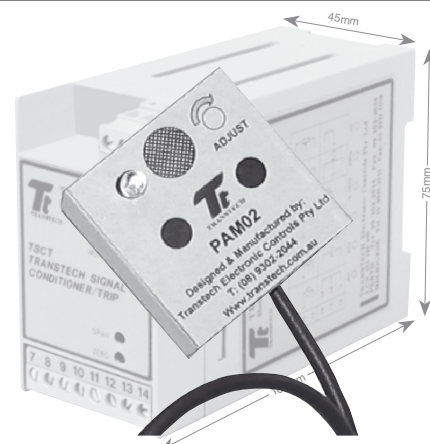
All standard instrument types

Mechanical:

Operating Temp	0 / 60 deg C
Storage Temp	-25 / 75 deg C
Housing Material	Krilen
Mounting	DIN or G rail
Size mm (h x w x d)	85 x 79 x 25
Weight	100 grams approx

Electrical:

Supply Volts	85 – 250VAC/DC, 60V
Loop Voltage	12 45volts
Output	4-20mA into 1200 ohms
Isolation	2500vrms
Linearity	0.1% of span
Common Mode	110dB
Accuracy	0.1% of span
Drift	Less 0.1% 10,000hrs
Response Time	250usec (step 10-90%)



PAM-01 & PAM-02

Field mounted or panel mounted
 audio monitors

Application:

The **PAM-02** can be clamped on to a speaker horn and monitor the audio output providing a contact closure to indicate operation in a safety start-up conveyor system.

The **PAM-01** is a panel mounted, mains powered monitoring module which drives the horn driver and monitors the current.

Features:

- Indication by LED
- Compact
- IP-65 rating for PAM-02

Inputs:

PAM-01 mA monitoring (fail-to-safe)
PAM-02 audio

Outputs:

Changeover relay

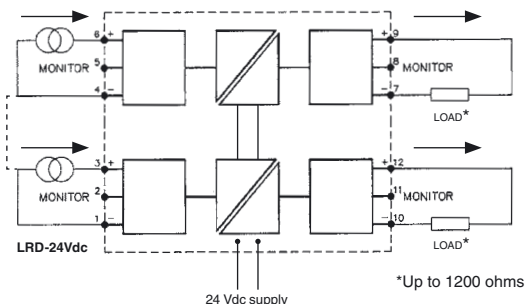
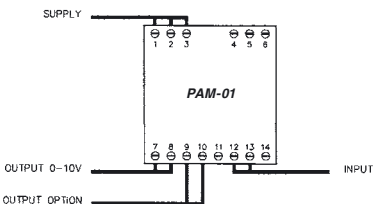
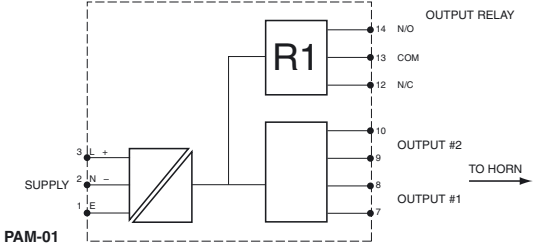
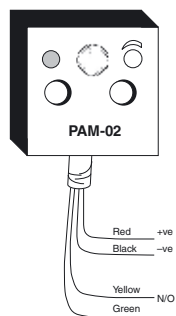
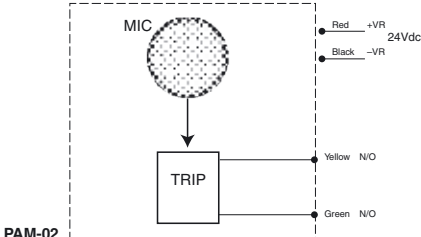
Mechanical:

Operating Temp	0 / 60 deg C
Storage Temp	-25 / 75 deg C
Housing Material	Krilen
Mounting	DIN or G rail
Size mm	see data-sheet
Weight	50 grams approx

Electrical:

Supply Volts:	
PAM-01	24Vdc, 120vac, 240vac
PAM-02	24Vdc
Output	Relay changeover

CONNECTION INFORMATION

TYPICAL RANGE	TERMINAL CONNECTIONS	SCHEMATIC CONNECTIONS
Inputs 4-20mA Link inputs for Single 4-20mA Input Dual Outputs 4-20mA	LRD-24VDC See pages 8 & 9. "Powered Loop Splitter"	 <p>*Up to 1200 ohms</p>
Vdc Current dc freq (pulse) RTD Slidewire Thermocouple Two Wire Transmitter	PSC-VCD	<p style="text-align: center; opacity: 0.5; font-size: 2em;">IN PREPARATION</p>
Drives speaker driver to give audible output for pre-alert to conveyor startup. Input voltage equals speaker driver voltage.	PAM-01 	
dB settable to monitor audio output from a speaker horn forming part of a conveyor safety startup system.	PAM-02 	

OTHER PRODUCTS

Process & Transient Controls / Positioning & Motion / Mimics

PROCESS & SURGE/TRANSIENT PROTECTION

Signal Conditioners / Trip Amplifiers / Transmitters / Isolators
Transient / Surge Protection
Power Supplies
Structural Lightning Protection – early streamer emission
EEx d Certified Flow – Pressure-Temperature
Level Controls
Alarm Annunciators
Data logging with SMS & Internet connectivity capability

POSITIONING & MOTION

Inductive Proximity sensors
High Temperature Inductive Proximity Sensors to 250 deg C
Photo-electrics
Colour, Luminescence Scanners
Laser distance and positioning
Safety curtains
Encoders – absolute
Encoders – pulse type
Inclinometers
Tacho sensors and displays
Mounting accessories

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