TECH POWER
ELECTRONICS GROUP

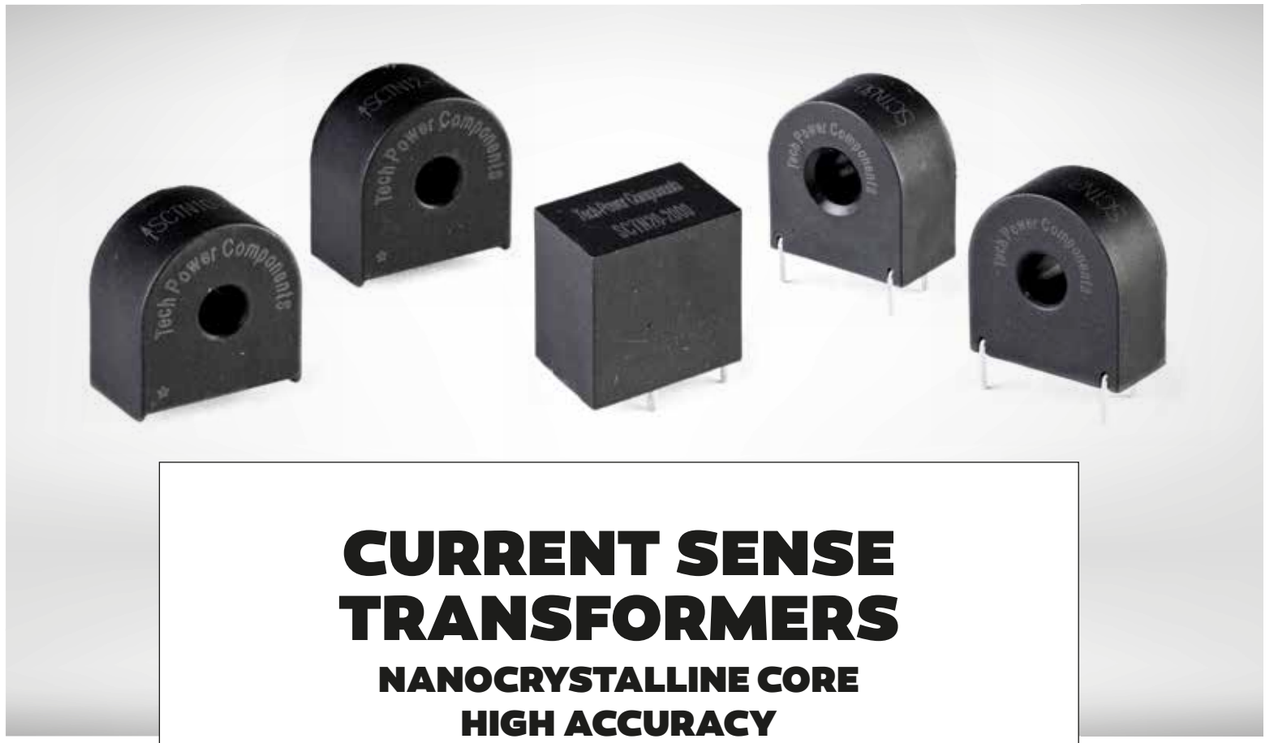
Tech Power®
Components
By TECH POWER ELECTRONICS

CURRENT SENSE TRANSFORMERS

INDUCTIVE POWER.

AGILE // PRAGMATIC // SINCERE

Driven by innovation, reliable and always focused on solutions – this is how the group-wide expertise within the TECH POWER ELECTRONICS GROUP can be summed up. The six companies SCHWA-MEDICO Transformatoren GmbH, SCHNEEFUSS + ROHDE GmbH, MANFRED SCHMELZER GmbH, MS BALTI Trafo OÜ, MCT Transformatoren GmbH and TECH POWER ELECTRONICS together form a strong alliance capable of shaping the worldwide market with their transformers and industrial products. We are a company with clear values, a commitment to quality, synchronous workflows, lean structures, and a strategy of long-term growth for the entire group.



CURRENT SENSE TRANSFORMERS

NANOCRYSTALLINE CORE HIGH ACCURACY

TECH POWER ELECTRONICS GROUP develops a new standard range of fully encapsulated current sense transformers with nanocrystalline core.

They are designed for power electronic applications which require a highly-accurate current measurement.

In comparison with other soft magnetic materials, nanocrystalline alloys is the best material to be used in toroidal core for current transformers, due to its high magnetic permeability and low core losses.

Advantages

– High permeability:
  smaller error in the measurement of current and lower phase angle error so higher accuracy
– High saturation induction: smaller size and lighter weight
– Excellent thermal stability:
  larger operating temperature range

Standards

– RoHS
– Reach
– Plastic materials meet UL94 V-0 requirements

REACH

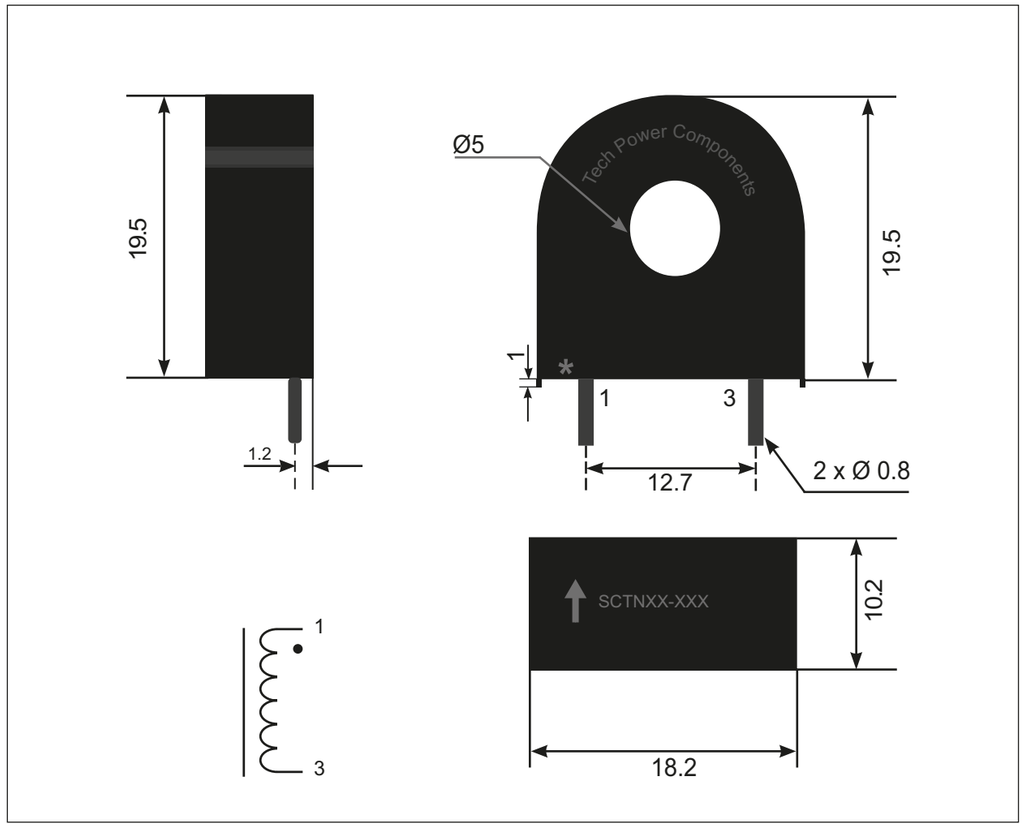
RoHS COMPLIANT

10 A CURRENT SENSE TRANSFORMERS SCTN10-750

Electrical characteristics (ambient temperature = 25 °C)	
SCTN10-750	
Current range	0~10 A
Turn ratio	1 : 750
Internal resistance	25 Ω
Frequency range	50–400 Hz
Phase angle Error	≤ 60‘
Linearity	≤ 0.5 %
Accuracy class	0.5
Rated burden resistance	≤ 50 Ω
Operating temperature range	–40 °C to +125 °C
Storage temperature range	–40 °C to +125 °C

Weight: 6 g
Unless otherwise stated, all dimensions in mm ±0.2

– Arrow designates direction of primary current in phase with pin 1 (identified by * on the box)
– Isolation Pri to Sec: 3,000 Vac min



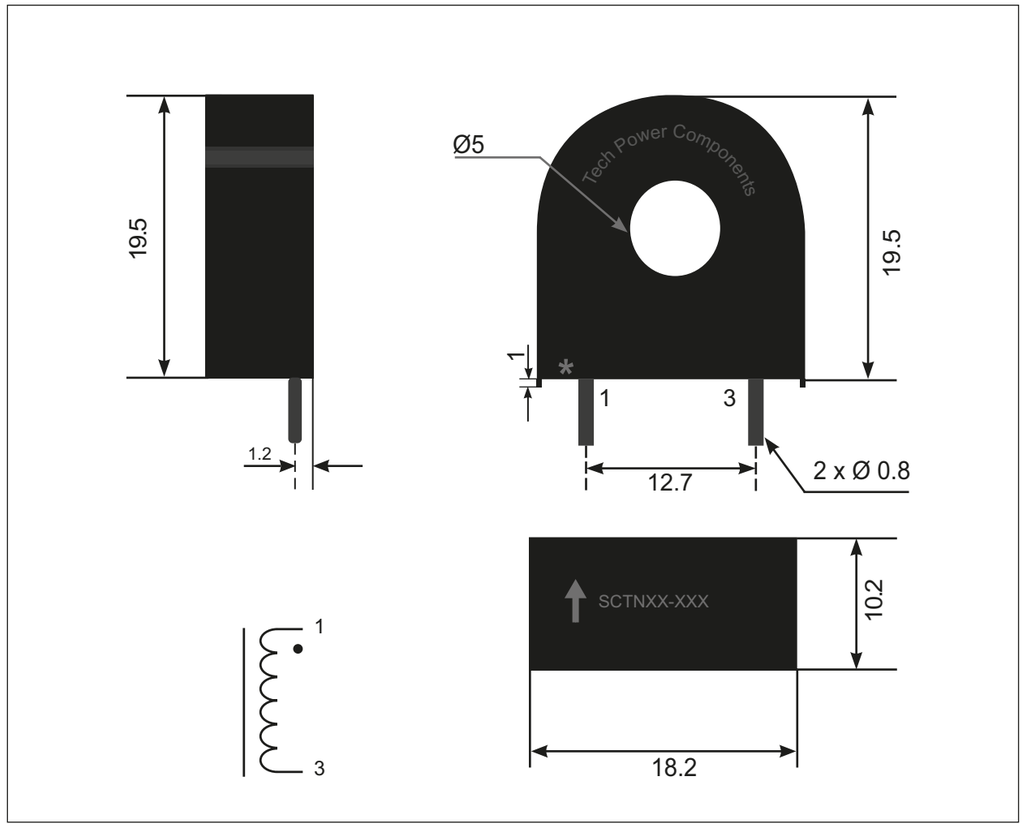
12 A CURRENT SENSE TRANSFORMERS SCTN12-1000

Electrical characteristics (ambient temperature = 25 °C)	
SCTN12-1000	
Current range	0~12 A
Turn ratio	1 : 1,000
Internal resistance	50 Ω
Frequency range	50–400 Hz
Phase angle error	≤ 60‘
Linearity	≤ 0.5 %
Accuracy class	0.5
Rated burden resistance	≤ 50 Ω
Operating temperature range	–40 °C to +125 °C
Storage temperature range	–40 °C to +125 °C

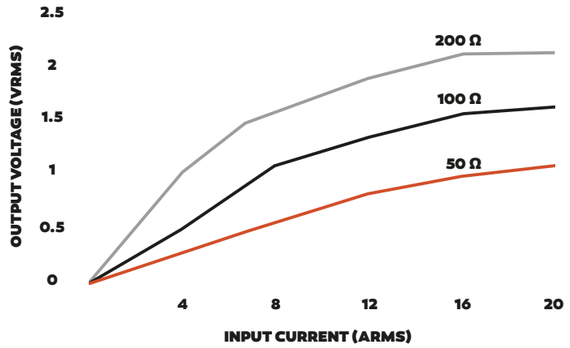
Weight: 6 g

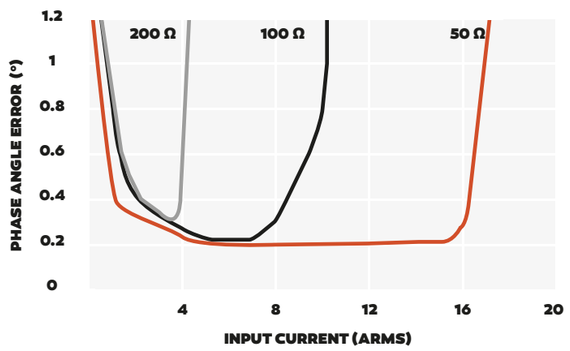
Unless otherwise stated,
all dimensions in mm ±0.2

– Arrow designates direction of primary current in phase with pin 1 (identified by * on the box)
– Isolation Pri to Sec: 3 KVac min

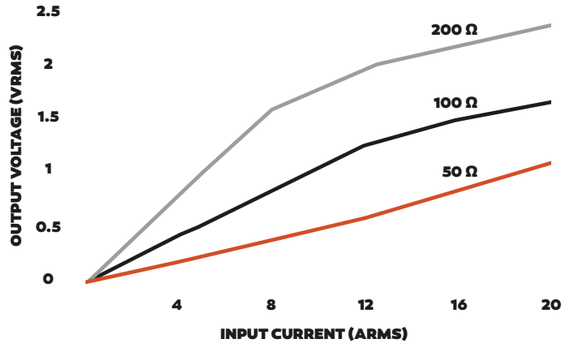


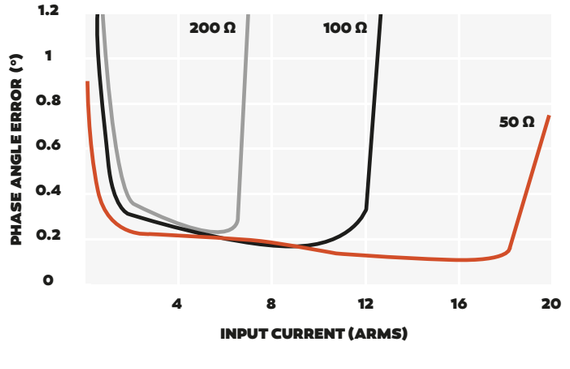
10 A CURRENT SENSE TRANSFORMERS SCTN10-750





12 A CURRENT SENSE TRANSFORMERS SCTN12-1000





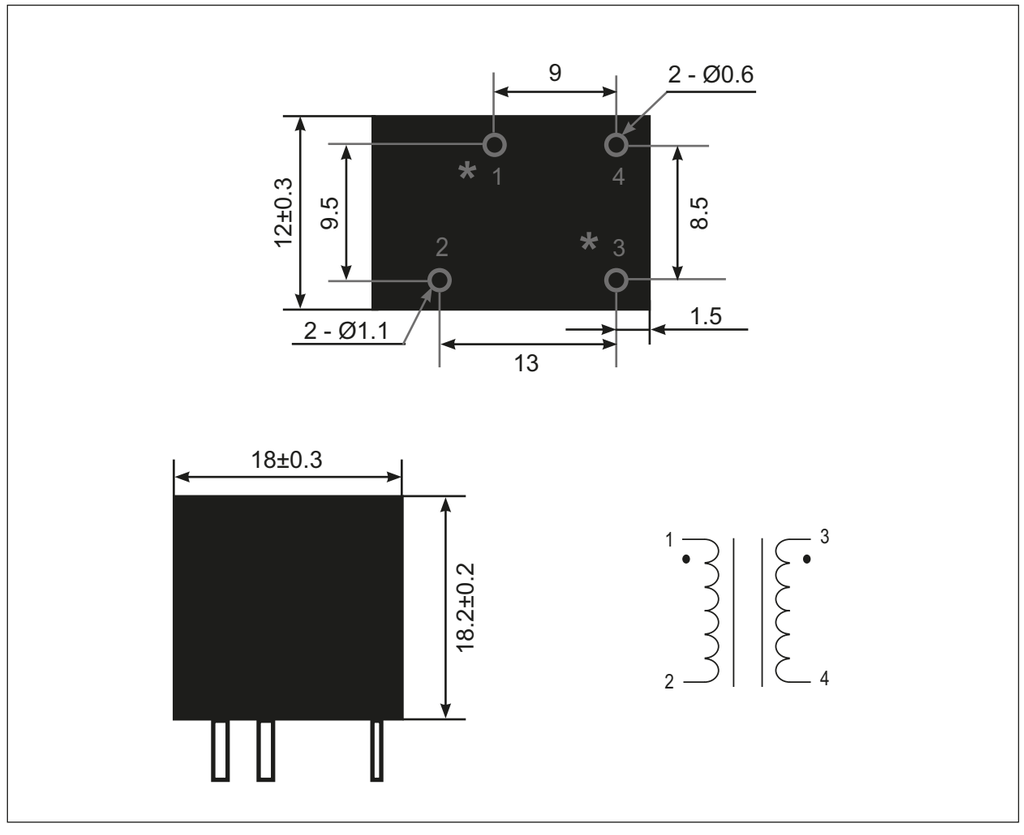
20 A CURRENT SENSE TRANSFORMERS SCTN20-2000

Electrical characteristics (ambient temperature = 25 °C)	
SCTN20-2000	
Current range	0~20 A
Turn ratio	1 : 2,000
Internal resistance	150 Ω
Frequency range	50–400 Hz
Phase angle Error	≤ 20‘ (input: 1 A, burden resistance: 100 Ω)
Linearity	≤ 0.2 % (5 % Ip to 120 % Ip)
Accuracy class	0.2
Rated burden resistance	≤ 100 Ω
Operating temperature range	–40 °C to +125 °C
Storage temperature range	–40 °C to +125 °C

Weight: 8 g

Unless otherwise stated,
all dimensions in mm ± 0.2

– pins 1 & 2: primary inputs
– pins 3 & 4: secondary outputs
– Isolation Pri to Sec: 3 KVac min
– *: same polarity



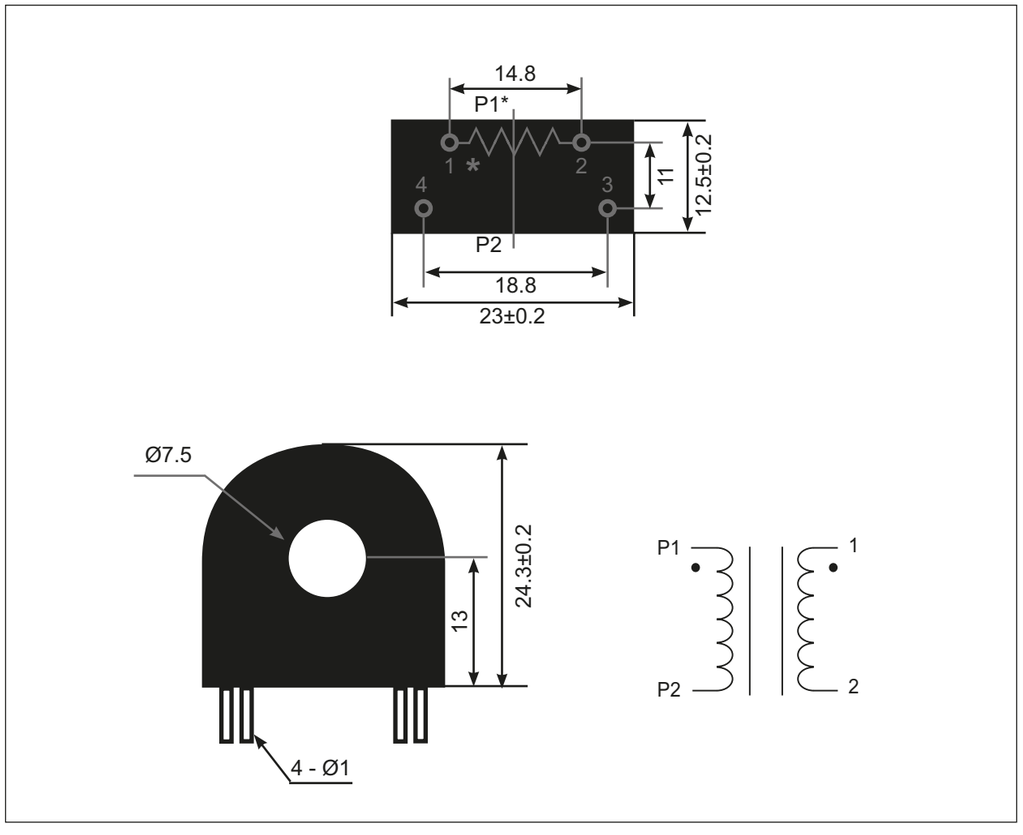
30 A CURRENT SENSE TRANSFORMERS SCTN30-1000

Electrical characteristics (ambient temperature = 25 °C)	
SCTN30-1000	
Current range	0~30 A
Turn ratio	1 : 1,000
Internal resistance	40 Ω
Frequency range	50–400 Hz
Phase angle error	≤ 15‘ (input: 5 A, burden resistance: 50 Ω)
Linearity	≤ 0.3 % (5 % Ip to 120 % Ip)
Accuracy class	0.5
Rated burden resistance	≤ 50 Ω
Operating temperature range	–40 °C to +125 °C
Storage temperature range	–40 °C to +125 °C

Weight: 14 g

Unless otherwise stated,
all dimensions in mm ±0.2

– pins 1 & 2: secondary outputs
– pins 3 & 4: blind pins
– Isolation Pri to Sec: 4.5 KVac min
– *: same polarity



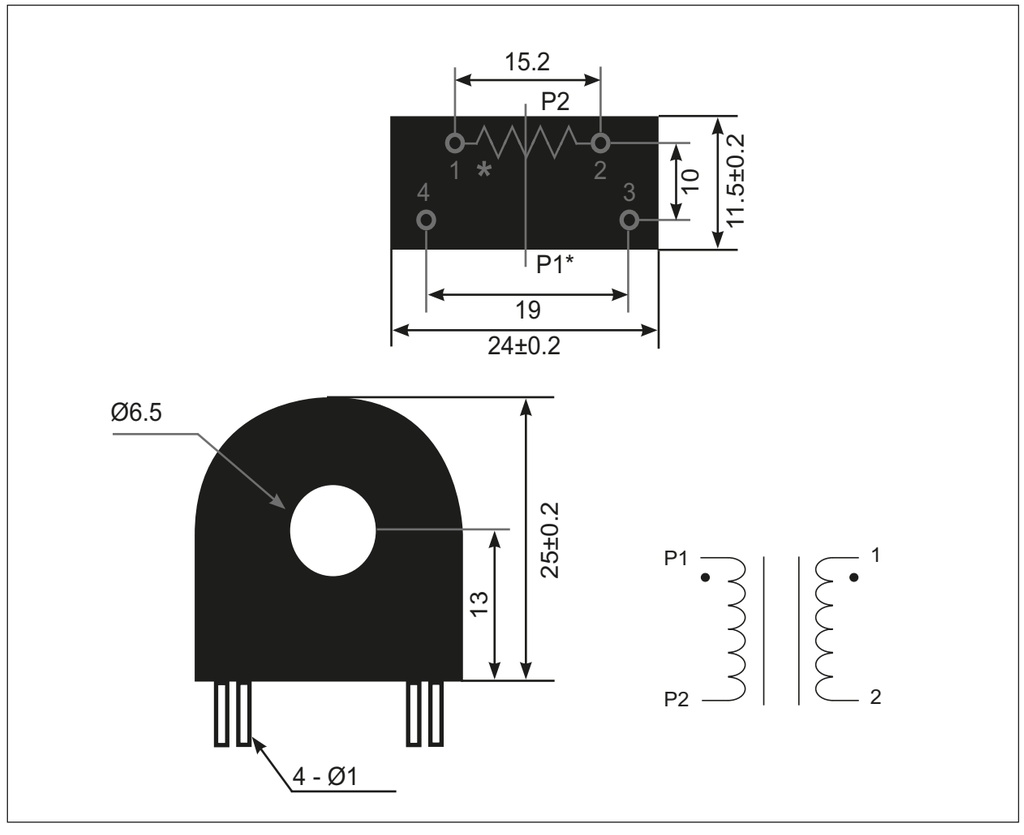
70 A CURRENT SENSE TRANSFORMERS SCTN70-2500

Electrical characteristics (ambient temperature = 25 °C)	
SCTN70-2500	
Current range	0~70 A
Turn ratio	1 : 2,500
Internal resistance	250 Ω
Frequency range	50–400 Hz
Phase angle error	≤ 20‘ (input: 1 A, burden resistance: 100 Ω)
Linearity	≤ 0.1 % (5 % Ip to 120 % Ip)
Accuracy class	0.2
Rated burden resistance	≤ 100 Ω
Operating temperature range	−40 °C to +125 °C
Storage temperature range	−40 °C to +125 °C

Weight: 15 g

Unless otherwise stated,
all dimensions in mm ±0.2

– pins 1 & 2: secondary outputs
– pins 3 & 4: blind pins
– Isolation Pri to Sec: 4.5 KVac min
– *: same polarity



NOTES

CURRENT SENSE TRANSFORMERS

SWITCH MODE APPLICATIONS

Applications

20 A current sense transformers are designed to be used in switch-mode applications such as :

– Power supplies
– Motor control
– Electronic lighting ballasts

Features

– 50, 100, 200, 300 & 750 turn versions
– Primary current rating: 20 A max
– 20 kHz–200 kHz frequency range
– Center tapped versions are available
– Fully encapsulated

Standards

– RoHS
– Reach
– Plastic materials meet UL94 V-0 requirements

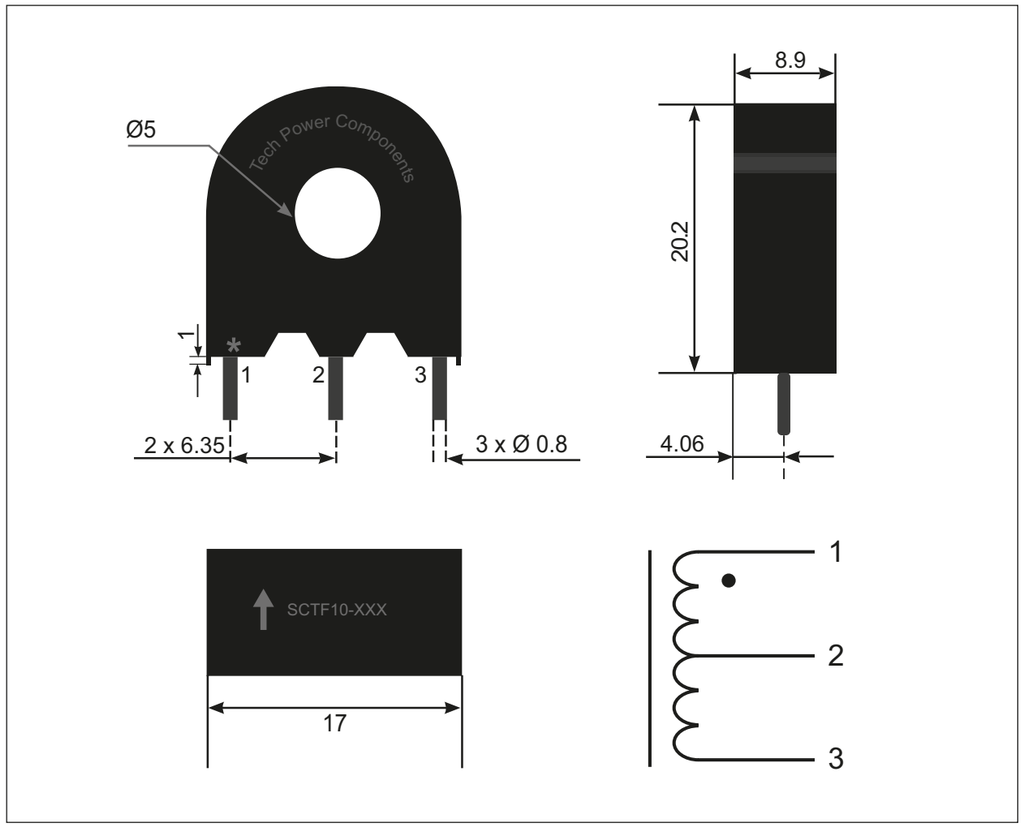
REACH
RoHS COMPLIANT

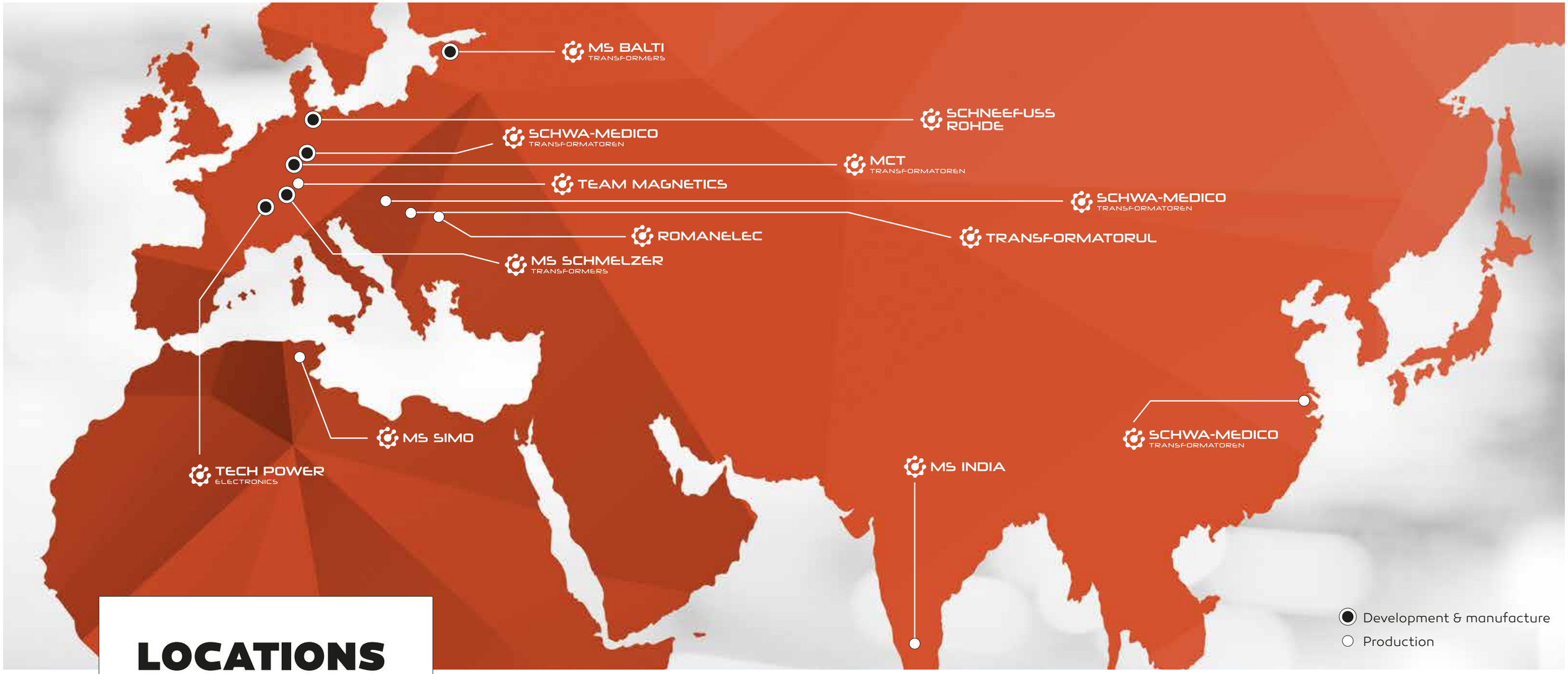
Electrical characteristics (ambient temperature = 25 °C)							
P/N	Number of turns ±1 turn	Secondary Inductance Pins 1 & 3 mh min	Secondary DC Resistance Pins 1 & 3 Ω max	RT to produce $1V_{OUT}/1A_{IN}$ Ω	Product $V_{SEC}*T_{ON}$ VμS max	Operating Temperature Range	Storage Temperature Range
SCTF10-50	50	5	0.2	50	175	−40 °C to +85 °C	−40 °C to +125 °C
SCTF10-100	100	20	1.4	100	350		
SCTF10-200	200	80	2.8	200	700		
SCTF10-300	300	180	8.6	300	1,050		
SCTF10-750	750	2,350	75.0	750	2,625		
SCTF10-100T	100 CT	20	1.4	100	350		
SCTF10-200T	200 CT	80	2.8	200	700		
SCTF10-300T	300 CT	180	8.6	300	1,050		

Weight: 5 g

Unless otherwise stated, all dimensions in mm ±0.25

– Arrow designates direction of primary current in phase with pin 1 (identified by * on the box)
– Isolation Pri to Sec: 2.5 KVac min
– Pin 2 is fitted only on center tapped versions





LOCATIONS

● // **SCHWA-MEDICO GmbH** // Philipp-Reis-Straße 5 // 35321 Laubach, Germany
Phone: +49 6405 50580-0 // Fax: +49 6405 3763 // info@smtrafo.com

● // **SCHNEEFUSS + ROHDE GmbH** // Raiffeisenstraße 5 // 21379 Scharnebeck, Germany
Phone: +49 4136 91302-0 // Fax: +49 4136 91302-22 // info@schneefuss.de

● // **MANFRED SCHMELZER GmbH** // Waidplatzstraße 6–8 // 79331 Teningen-Nimburg, Germany
Phone: +49 7663 9447-0 // Fax: +49 7663 9447-50 // info@ms-transformers.de

● // **MS BALTI Trafo OÜ** // Vihtra tee 3a // 87701 Vändra, Estonia
Phone: +372 447 166-0 // Fax: +372 447 166-7 // info@msbaltitrafo.ee

● // **TECH POWER ELECTRONICS** // ZI Les Plaines // 39570 Courlaoux, France
Phone: +33 384 252626 // Fax: +33 384 252610 // sales@techpowerelectronics.com

● // **MCT TRANSFORMATOREN GmbH** // Oberurseler Straße 61–63 // 61440 Oberursel, Germany
Phone: +49 6171 501-0 // Fax: +49 6171 501-311 // mct@tpe.group

○ // **SCHWA-MEDICO GmbH** // Schwa-Medico Electrical Co., Ltd
2F, Building A4, No. 128 Hongye Road // 215021 Industria Park // Suzhou, China

○ // **SCHWA-MEDICO KFT.** // Ajka, Téglagyári u. 21 // 8400 Hungary
Phone: +36 88 500 410

○ // **MS INDIA** // M.S Transformers India Pvt Ltd. // 1/512, Avinashi Main Road, Neelambur PostSulur Tk,
Coimbatore - 641 062, Tamil Nadu, India // Phone: +91 97509-28810

○ // **MS SIMO** // SIMO Tunisie S.A.R.L. Zone Industrielle El Alia 7016 E Alia Bizerte, Tunisia

○ // **ROMANELEC** // Str. Aurel Vlaicu 37–39 // 551041 Medias, Romania // Phone: +40 269 831877 // Fax: +40 269 831738

○ // **TRANSFORMATORUL** // Str. Faurilor Nr 140–142 // 310489 Arad, Romania // Phone: +40 257 272233

○ // **TEAM MAGNETICS INTERNATIONAL GmbH** // Daimlerstraße 12 // 71083 Herrenberg, Germany
Phone: +49 7032 95607-0 // Fax: +49 7032 95607-11 // teammagnetics@tpe.group

Conception and design: Welke Consulting Group, Siegen, Germany

TECH POWER
ELECTRONICS GROUP

www.tpe.group

May 2017