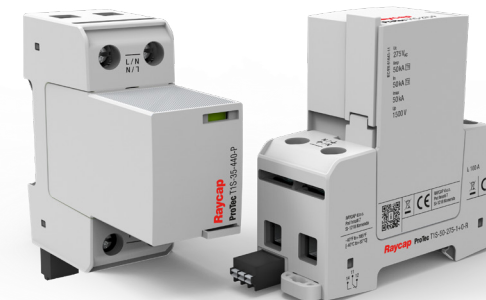


www.raycap.com

Information contained in this document is subject to change at any time without notice.



Installation Instructions Installationsanleitung Manuel d'installation Instrucciones de Instalación Istruzioni per l'installazione



ENGLISH

Please read the following before installing your Surge Protective Device:

- Verify the system voltage and configuration on the label if it is appropriate for the application.
- Risk of Electric Shock – Installation and maintenance should be performed by qualified personnel only.
- Disconnect from energized circuits before installing or servicing.
- Safety rules and regulations applicable to all devices connected to power lines should always be followed. National standards and safety regulations must be followed.
- The external mechanical integrity of the device must be checked before installation. Products with visible damage should not be installed.
- Its use is only permitted within the limits shown and stated in these installation instructions. Opening or tampering with the device invalidates the warranty.
- Connecting leads shall be kept as short as possible, without loops, and not exceed 0.5m in total length per SPD according to IEC 60364-5-53.

DEUTSCH

Bitte lesen Sie die folgenden Angaben vor Installation des Überspannungsschutzgeräts:

- Stellen Sie sicherstellen, dass die Systemspannung und -konfiguration auf dem Etikett für die Anwendung geeignet ist.
- Stromschlaggefahr – Installation und Wartung sollten nur vom Fachmann durchgeführt werden.
- Gerät vor der Installation oder Wartung/Reparatur von spannungsführenden Leitungen trennen.
- Die Sicherheitsvorschriften und -regeln für alle an Stromleitungen angeschlossenen Geräte sind stets zu befolgen. Vor Ort geltende Normen und Sicherheitsvorschriften befolgen.
- Vor der Installation ist die externe mechanische Unversehrtheit des Geräts sicherzustellen. Produkte mit sichtbaren Schäden dürfen nicht installiert werden.
- Das Gerät ist nur für den Betrieb innerhalb der angegebenen Grenzwerte zugelassen. Wird das Gerät geöffnet oder manipuliert, erlischt die Garantie.
- Anschlussleitungen sollten so kurz wie möglich gehalten werden, dürfen keine Schleifen enthalten und nicht länger als 0,5 m sein (laut IEC 60364-5-53).

FRANÇAIS

Veillez lire les instructions suivantes avant d'installer votre parafoudre:

- Vérifiez que la tension et la configuration du système sur l'étiquette du produit conviennent à l'application
- Risque de choc électrique - L'installation et l'entretien ne doivent être effectués que par du personnel qualifié.
- Débranchez des circuits sous tension avant l'installation ou l'entretien.
- Les règles de sécurité et les réglementations applicables à tous les appareils branchés aux lignes électriques doivent toujours être respectées.
- L'intégrité mécanique externe du produit doit être vérifiée avant l'installation. Les produits présentant des dommages visibles ne doivent pas être installés.
- L'utilisation du produit n'est autorisée que dans les limites indiquées dans ce manuel d'installation. Le démontage ou la modification du produit annule sa garantie.
- Les câbles de raccordement doivent être aussi courts que possible, sans boucles et ne doivent pas dépasser une longueur totale de 50 cm par parafoudre conformément à la norme IEC 60364-5-53.

ESPAÑOL

Lea las siguientes instrucciones antes de la instalación de su dispositivo de protección contra sobretensiones:

- Compruebe que la tensión y configuración del sistema que aparecen en la etiqueta son adecuadas para su instalación.
- Riesgo de descarga eléctrica: únicamente personal cualificado puede instalar o dar mantenimiento a este dispositivo.
- Desconecte los circuitos con tensión antes de instalarlo o darle mantenimiento.
- Siga siempre todas las normas y reglamentos de seguridad aplicables a todos los dispositivos conectados a la red eléctrica. Debe respetar las normas y los reglamentos de seguridad nacionales.
- Compruebe la integridad mecánica externa del dispositivo antes de su instalación. Nunca instale productos que presenten daños visibles.
- Solo se permite el uso dentro de los límites establecidos en estas instrucciones de instalación. La apertura o manipulación del dispositivo conllevará la anulación de la garantía.
- Las conexiones de cables deben ser lo más cortas posibles, sin bucles y sin exceder 0,5 m de longitud total por cada SPD, según la norma IEC 60364-5-53.

ITALIANO

Prima di installare il limitatore di sovratensione (SPD: Surge Protective Device), leggere attentamente quanto segue:

- Verificare la tensione e la configurazione del sistema sull'etichetta per capire se sono appropriati per l'applicazione del dispositivo.
- Rischio di elettrocuzione – L'installazione e la manutenzione devono essere effettuate unicamente da personale qualificato.
- Disinserire la corrente ai circuiti, prima dell'installazione o della manutenzione.
- È necessario rispettare sempre le normative e i regolamenti di sicurezza applicabili, per tutti i dispositivi collegati alla rete elettrica. È necessario rispettare gli standard nazionali e le normative di sicurezza.
- Prima dell'installazione, è necessario verificare l'integrità meccanica esterna del dispositivo. Non bisogna installare prodotti che mostrino danni evidenti.
- Il suo uso è consentito solo entro i limiti indicati e dichiarati in queste istruzioni di installazione. L'apertura o la manipolazione del dispositivo causano l'annullamento della garanzia.
- L'interconnessione delle parti conduttrici deve essere più corta possibile, evitando la formazione di anelli e non deve comunque superare gli 0,5m di lunghezza totale, per gli SPD, in conformità con l'IEC 60364-5-53.

DIMENSIONS / FAULT INDICATION

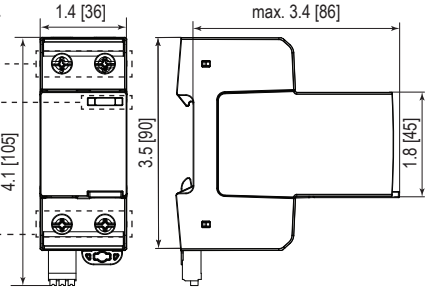


PH2 / max. 4.5 Nm [40 lbf-in]
 Ø min. 1.5mm² [15AWG] (1, 2, 3)
 Ø max. 35mm² [2AWG] (1, 2) / 25mm² [4AWG] (3)

Green
 Grün
 Not green
 Nicht grün → Replace Plug
 Stecker ersetzen



Push in
 Ø min. 0.25mm² [23AWG] (1)
 Ø max. 1.5mm² [16AWG] (1)



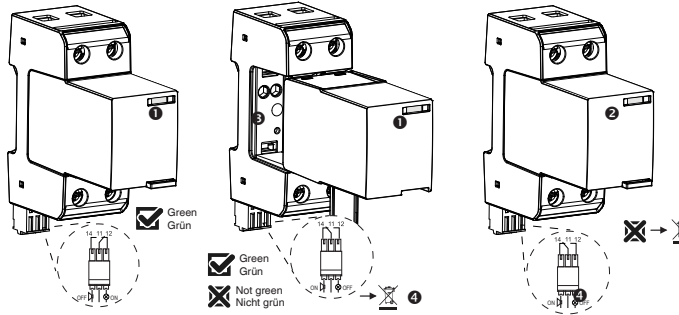
inches
[mm]

TECHNICAL DATA

	ProTec T1S-35-275-1+0(-R)	ProTec T1S-35-440-1+0(-R)	ProTec T1S-50-275-1+0(-R)	
Product name	ProTec T1S-35-275-1+0(-R)	ProTec T1S-35-440-1+0(-R)	ProTec T1S-50-275-1+0(-R)	
U _o /U _n	AC (50-60Hz)	240V +6%	400V +10%	240V +6%
U _c	AC	275V	440V	275V
U _p / U _{res} @ 5kA	(8/20)	1500V / 1000V	2500V / 1500V	1500V / 1000V
I _n / I _{max}	(8/20)	35kA / 50kA	35kA / 50kA	50kA / 50kA
I _{imp}	(10/350)	35kA	35kA	50kA
I _{scCR}		100kA	100kA	100kA
Max. Backup fuse (F2), if required	500A gG fuse	400A gG fuse	500A gG fuse	
I _{PE}		≤ 5µA	≤ 5µA	≤ 5µA
I _{li}		100kA	100kA	100kA
Overvoltage Category	III	III	III	III
Ta	-40°C to +85°C [-40°F to +185°F]			
RH	5%...95%			
Mounting	35mm DIN rail, EN 60715			
Number of ports	1			
Altitude (max)	4000m [13123ft]			
Location	Indoor			
IP	20 (built-in)			
Min. distance from any earthed conductive surface	0mm			

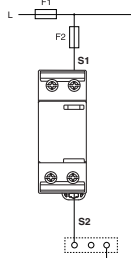
Mech. & Env.

REMOTE CONTACT STATES



1 Green / Grün	3 Unplugged / Nicht eingesteckt	
2 Not green / Nicht grün	4 Replace plug / Stecker ersetzen	
A.C. 250V / 1A, 125V / 1A	D.C. 48V / 0.5A, 24V / 0.5A, 12V / 0.5A	
Overvoltage Category	III	
RC contact(s) states / Fernmeldekontakt(e)-Status	11-12	11-14
SPD module(s) functional / installation is protected SPD-Modul(e) funktional / Installation ist geschützt	Closed Geschlossen	Open Offen
SPD module(s) unplugged or non-functional / installation is unprotected SPD-Modul(e) nicht eingesteckt oder nicht funktional / Installation ist ungeschützt	Open Offen	Closed Geschlossen

BACKUP FUSE



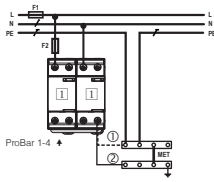
Protection against short circuit

ProTec T1S-35-275, ProTec T1S-50-275		ProTec T1S-35-440			
F1	F2	F1	F2		
I _{scCR} = 100kA		I _{scCR} = 100kA			
F1 ≤ 500A gG	F2 not needed	F1 ≤ 400A gG	F2 not needed		
F1 > 500A gG	F2 ≤ 500A gG	F1 > 400A gG	F2 ≤ 400A gG		
Recommended conductor cross section (Cu H07V-K)					
F1	S1	S2	F1	S1	S2
≤ 40A	6mm²	16mm²	160A - 200A	25mm²	25mm²
63A - 80A	10mm²	16mm²	>250A	35mm²	35mm²
100A - 125A	16mm²	16mm²	>315A	35mm²	35mm²

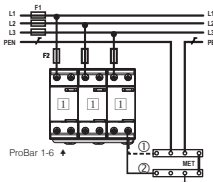
* Conductor with higher isolating temperature should be used.

PROTECTION CONFIGURATIONS

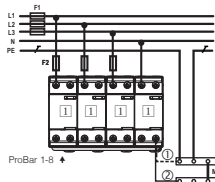
TN-S system, T-connection



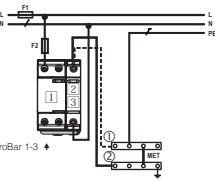
TN-C system, T-connection



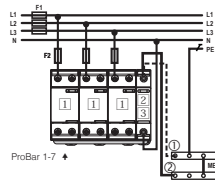
TN-S system, T-connection



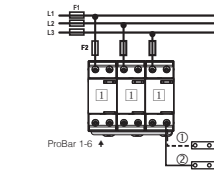
TT system, T-connection



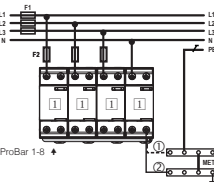
TT system, T-connection



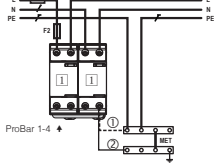
IT system, T-connection (only products with Uc 440V)



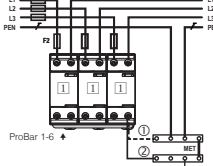
IT system, T-connection (only products with Uc 440V)



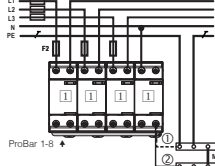
TN-S system, V-connection (only if F1 ≤ 100A)



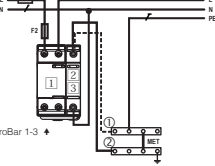
TN-C system, V-connection (only if F1 ≤ 100A)



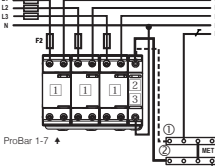
TN-S system, V-connection (only if F1 ≤ 100A)



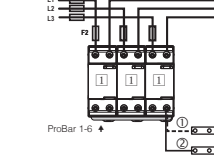
TT system, V-connection (only if F1 ≤ 100A)



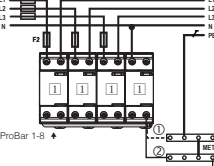
TT system, V-connection (only if F1 ≤ 100A)



IT system, V-connection (only products with Uc 440V, only if F1 ≤ 100A)



IT system, V-connection (only products with Uc 440V, only if F1 ≤ 100A)



For each application use only products of the same voltage.

Mode of protection

275V	440V	1+0, 2+0	L-PE, N-PE*	4+0	L-PE, N-PE
1 ProTec T1S-35-275-1+0(-R), 1 ProTec T1S-50-275-1+0(-R)	1 ProTec T1S-35-440-1+0(-R)	3+0	L-PEN, L-PE	1+1, 3+1	L-N, N-PE
2 ProTube T1S-100-0+1	-	* Only TN-S and IT			
-	3 ProTube T1S-440-100-0+1	PE / PEN	Ø min 16mm²	L / N	Ø min 6mm²

If length of connection Ø > 0.5m make connection Ø.

Legend

N	Neutralleiter / Neutral
PE	Schutzleiter / Protective Earth
PEN	Schutzleiter / Protective Earth Neutral