

# 1000BASE-T1 SFP Module A2 PHY

## Cable Set

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## 1 GENERAL INFORMATION

### 1.1 Functionality and Features of the 1000BASE-T1 SFP Module A2 PHY




Figure 1-1: 1000BASE-T1 SFP Module A2 Phy

The **Technica Engineering 1000BASE-T1 SFP Module A2 PHY** fits into a standard Small Form-factor Pluggable slot

It uses the SGMII and generates 1000 Mbit/s full duplex.

 SERDES interface is not supported!

 100BASE-T1 is not supported!

After power up, it self-configures to Automotive 1000BASE-T1.

Registers of the integrated transceiver are accessible via I<sup>2</sup>C interface for diagnosis and reconfiguration.

**IMPORTANT:** The SFP Modules do not work in a “plug-and-play” manner with any SFP-capable system. Only the use with our MediaGateway (\*\* place Link) here \*\* can be guaranteed. In order to set-up the SFP Modules to work in your system, you must be able to interface via I<sup>2</sup>C and get in touch with Marvell (the phy manufacturer) to receive the NDA protected phy-register setting datasheet in order to initialize the phy properly. In this regard, Technica cannot support, due to NDA restrictions.

One Link LED shows link status.

### 1.1.1 Features

- 1000BASE-T1 and SGMII converter
- Marvell 88Q2112 A2 PHY (“IEEE Compliant” or “A0 compatible” mode settable via phy register settings)
- Fits into a standard SFP slot
- Power requirements: 3.3 Volt DC
- Supports I2C for internal register access
- Master/Slave either via small DIP switch or PHY register settings
- Status LEDs
- DIP switch for Master/ Slave configuration

### 1.1.2 General Information

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Voltage requirement:	3.3 Volt DC +/- 0.03 Volt
Power consumption:	Standard SFP compliant
Size:	68 x 14 x 14 mm
Weight:	0,1 kg
International Protection:	IP 2 0
Operating temperature:	0 to +70 °Celsius

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### 1.1.3 LINKS

The User can download the latest firmware and documentation for the 1000BASE-T1 SFP Module A2 PHY here:

<https://technica-engineering.de/en/produkt/1000base-t1-sfp-module/>

### 1.1.4 General operating and safety strategy of Technica Engineering's Products

Technica Engineering's products are designed for operation in automotive systems and for supply voltages of nominal 12 V or 24 V. The applicable limit values adhere to the standard norms for 12 V or 24 V automotive onboard power systems correspondingly and can be found in the mentioned norms.

Should Technica Engineering's products be operated in voltage ranges beyond those specified in the norms, which represents a breach of the conditions of operation, then this will void the product warranty and Technica Engineering will assume no liability whatsoever of the results and/or consequences thereof.

This is especially valid whenever the voltage level reaches or exceeds the limits of the low-voltage directive. In this case, damage to the devices cannot be excluded. Due to the manufacturing characteristics of the devices, there is no imminent fire hazard from the device itself, if the devices are being operated in an environment according to the conditions of use. A secondary fire hazard cannot be excluded, should those conditions not be met. A protection against overvoltage cannot be provided in such a breach of the conditions of use.





### 1.1.5 General design rules for the power supply of Technica Engineering's products



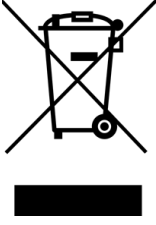

The power supply circuit of Technica Engineering's products are equipped with self-protection components. This automatic function protects the devices against excessive temperature and too high supply-voltage by switching the device off. This automatic switch-off function is independent of any software function.

The root-cause of excessive temperature in the power supply circuit can eventually be due to a too high environment temperature or due to an internal failure of the device. In both cases, the automatic switch-off function will switch-off the power supply from the device to avoid further damage.

The protection against too high supply-voltage protects the device even in case of an internal failure of the Technica Engineering device.

## 1.2 Warranty and Safety Information

	<p>Before operating the device, read this manual thoroughly and retain it for your reference.</p> <p>The latest documentation for the 1000BASE-T1 SFP Module can be downloaded here:  <a href="https://technica-engineering.de/en/produkt/1000base-t1-sfp-module/">https://technica-engineering.de/en/produkt/1000base-t1-sfp-module/</a></p>
	<p>Use the device only as described in this manual.</p> <p>Use only in dry conditions.</p> <p>Do not insert any foreign object in the slots/openings of the housing.</p> <p>Do not apply power to a damaged device.</p> <p>The device may only be used by specialists.</p>
	<p>Do not open the device. Otherwise warranty will be lost.</p>
	<p>This product is intended for use in automotive-test environments. An automotive-test environment includes test setups or test benches in the office, laboratory and workshop areas. In the test setups the same environmental conditions apply as in vehicle electrical systems. Technica Engineering products are not intended to be used as standard IT equipment. The test systems and products from Technica Engineering are designed as customer and application-specific test modules that are only used by specialists for development and test facilities.</p> <p>When integrating the modules in a vehicle or test set-up, the user must ensure appropriate ventilation or air convection.</p> <p>Technica Engineering products must not be considered as a safety element out of context when using safety-critical systems and must be included in the safety assessment when used. The development class in a safety system must be taken into account with standard QM referred to ISO26262.</p>


	 The device can get hot.  Do not cover the device due to fire danger. Do not place the device near to highly flammable materials due to fire danger. Do not use the device above the specified operating temperature. The operating temperature is the ambient temperature of the installation space.
	This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal. Technica Engineering GmbH is registered as manufacturer of the brand "Technica Engineering" and the device type "Small devices of Information- and Telecommunications- technology for exclusive use in non-private Households". WEEE reg. No. DE 20776859
	Please refer to <a href="#">CHAPTER 4</a> for the EU Declaration of Conformity in accordance with Directive 2014/30/EU.

### 1.3 RoHS Certificate of Compliance

Technica Engineering's 1000BASE-T1 SFP Module complies with RoHS (Restriction of Hazardous Substances Directive) Certificate of Compliance.

## 1.4 Cable Set from 1000BASE-T1 SFP Module A2 PHY

The cable set from 1000BASE-T1 SFP Module A2 PHY include:

Product Description	Photo	Quantity
2mm W-B Crimp 22-26 AWG (SFP_Kontakte)		1
1 m Leoni cable without contact (SFP_LEONI_KABEL)		
Connector RCPT housing 2 mm 2 POS Single (SFP_STECKER_BUCHSE)		



## 2 LIST OF FIGURES

Figure 1-1: 1000BASE-T1 SFP Module A2 Phy ..... 3

## 3 CONTACT

If you have any questions regarding this product, please feel free to contact us:

Technica Engineering GmbH  
Leopoldstr. 236  
80807 München  
Germany

Technical support:

[support@technica-engineering.de](mailto:support@technica-engineering.de)

General information:

[Info@technica-engineering.de](mailto:Info@technica-engineering.de)

Most current user manuals and product information:

<https://technica-engineering.de/en/>

## 4 DECLARATION OF CONFORMITY

### Български

С настоящото Technica Engineering GmbH декларира, че продуктът Модул за улавяне 1000BASE-T1 SFP Module (TE-1437), е в съответствие с Директива 2014/30/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Čeština

Tímto Technica Engineering GmbH prohlašuje, že produkt 1000BASE-T1 SFP Module (TE-1437), je v souladu se směrnicí 2014/30/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Dansk

Hermed erklærer Technica Engineering GmbH, at produktet 1000BASE-T1 SFP Module (TE-1437), er i overensstemmelse med Direktiv 2014/30/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Deutsch

Hiermit erklärt Technica Engineering GmbH, dass das Produkt 1000BASE-T1 SFP Module (TE-1437) die Richtlinie 2014/30/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Eesti

Käesolevaga deklareerib Technica Engineering GmbH, et toode hõivamismoodul 1000BASE-T1 SFP Module (TE-1437), vastab

direktiivi 2014/30/EU nõuetele. ELi vastavusdeklaratsiooni tselik tekst on kttesaadav jrgmisel internetiaadressil:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### English

Hereby, Technica Engineering GmbH declares that the product 1000BASE-T1 SFP Module (TE-1437), is in compliance with Directive 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Español

Por la presente, Technica Engineering GmbH declara que el producto 1000BASE-T1 SFP Module (TE-1437), es conforme con la Directiva 2014/30/UE. El texto completo de la declaración UE de conformidad está disponible en la página web siguiente:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Ελληνικά

Με την παρούσα ο/η Technica Engineering GmbH, ότι το προϊόν 1000BASE-T1 SFP Module (TE-1437), πληροί την οδηγία 2014/30/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

### Français

Le soussigné, Technica Engineering GmbH, déclare que le produit 1000BASE-T1 SFP Module (TE-1437), est conforme la directive 2014/30/UE. Le texte complet de la déclaration UE de conformité est disponible l'adresse internet suivante:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

[module-te-1437-eu-declaration-of-conformity.pdf](https://technica-engineering.de/produkt/1000base-t1-sfp-module/)

## Hrvatski

Technica Engineering GmbH ovime izjavljuje da je proizvod 1000BASE-T1 SFP Module (TE-1437) u skladu s Direktivom 2014/30/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Italiano

Il fabbricante, Technica Engineering GmbH, dichiara che il prodotto 1000BASE-T1 SFP Module (TE-1437), conforme alla direttiva 2014/30/UE. Il testo completo della dichiarazione di conformità UE disponibile al seguente indirizzo Internet:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Latviešu

Ar šo Technica Engineering GmbH deklarē, ka produkts 1000BASE-T1 SFP Module (TE-1437), atbilst Direktīvai 2014/30/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Lietuvių

Aš, Technica Engineering GmbH, patvirtinu, kad produktas sugavimo modulis 1000BASE-T1 SFP Module (TE-1437), atitinka Direktyvą 2014/30/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo internet adresu:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Magyar

Technica Engineering GmbH igazolja, hogy a termék 1000BASE-T1 SFP Module (TE-1437) a 2014/30/EU irányelvnek. Az EUMegfelelőségi

nyilatkozat teljes szövege elérhető a következő internetes címen:

<https://technica-engineering.de/produkt/1000base-t1-sfp-module/>

## Malti

B'dan, Technica Engineering GmbH, niddikjara li l-prodott 1000BASE-T1 SFP Module (TE-1437), huwa konformi madDirettiva 2014/30/UE. It-test kollu tad-dikjarazzjoni ta' konformit ta-UE huwa disponibbli f'dan l-indirizz talInternet li ġej:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Nederlands

Hierbij verklaar ik, Technica Engineering GmbH, dat het 1000BASE-T1 SFP Module (TE-1437) product voldoet aan richtlijn 2014/30/EU. De volledige tekst van de EUconformiteitsverklaring kan worden geraadpleegd op het volgende internetadres:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Polski

Technica Engineering GmbH niniejszym oświadcza, że produkt 1000BASE-T1 SFP Module (TE-1437), jest zgodny z dyrektywą 2014/30/UE. Pełny tekst deklaracji zgodności z UE jest dostępny pod następującym adresem internetowym:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Português

O(a) abaixo assinado(a) Technica Engineering GmbH declara que o produto 1000BASE-T1 SFP Module (TE-1437), está em conformidade com a Diretiva 2014/30/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Română

Prin prezenta Technica Engineering GmbH declară ca produsul 1000BASE-T1 SFP Module (TE-1437), este în conformitate cu Directiva 2014/30/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Slovensko

Technica Engineering GmbH potvrdjuje, da je izdelek 1000BASE-T1 SFP Module (TE-1437), skladen z direktivo 2014/30/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>

## Slovensky

Technica Engineering GmbH týmto vyhlasuje, že produkt 1000BASE-T1 SFP Module (TE-1437), je v slade so smernicou 2014/30/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese:

<https://technica-engineering.de/wp-content/uploads/2018/06/1000base-t1-sfp-module-te-1437-eu-declaration-of-conformity.pdf>