

SmartSYNC™ Torch RFID Module

Operator Manual

ENGLISH
Original instructions

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Radio frequency identification (RFID) specifications

The SmartSYNC™ RFID module (NFC 13.56MHz RFID transceiver module) contains the following components:

- A passive RFID tag
- A wireless radio transceiver on the printed circuit board (PCB) with an attached coil antennae:
 - Operating frequency: 13.56 MHz
 - Protocol: ISO/IEC 15693
 - Maximum range: 8 mm (0.32 inch)
 - Maximum transmit power: 104 mW

Hypertherm's RFID protocol also includes data encryption for additional security over RFID alone.



Communications to the module use a proprietary encrypted serial protocol.

Operational Description

The SmartSYNC™ RFID module is designed to be installed and used in Hypertherm branded torches.

The SmartSYNC™ RFID module (NFC 13.56MHz RFID transceiver module) is powered by 12-18Vdc from the host device. The contact-less reader is using low power RF transmission for proximity reading range. OOK modulation is transmitted through the coil antenna to read a tag. The RFID protocol includes data encryption.

The data from the host device is written to a tag when a write command is issued over the proprietary encrypted serial protocol. Data is read from the host device is read from a tag when a read command is issued over the proprietary encrypted serial protocol.

SmartSYNC RFID/Communications Compliance

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United States of America (English)

FCC Notice for U.S. Customers

Hypertherm SmartSYNC™ torches contain an RFID module that complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

	NOTICE
Any changes or modifications not expressly approved by Hypertherm, Inc. could void the user's authority to operate the equipment under Federal Communications Commissions rules.	

FCC Interference Statement (Part 15.105 (b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

To fulfill FCC Certification requirements, an OEM manufacturer must comply with the following regulations:

1. The SmartSYNC RFID modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

IMPORTANT: Contains FCC ID: 2ASER-SMARTSYNC. This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation (FCC 15.19).

SmartSYNC RFID/Communications Compliance

Canada (English)

Canada Regulatory Notice

Industry Canada (IC) Statement:

This device contains IC: 24739-SMARTSYNC. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

The device has been found to be compliant to the requirements set forth in CFR 47 Sections 2.1091 and Industry Canada RSS-102 for an uncontrolled environment. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.). This Module is labelled with its own IC ID. If the IC ID Certification Number is not visible while installed inside another device, then the device should display the label on it referring the enclosed module. In that case, the final end product must be labelled in a visible area with the following:

“Contains Transmitter Module IC: 24739-SMARTSYNC”

OR

“Contains: IC: 24739-SMARTSYNC”

SmartSYNC RFID/Communications Compliance

Canada (French)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage, et
- 2) L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le dispositif a été jugé conforme aux exigences énoncées dans les articles 47 CFR 2.1091 et Industrie Canada RSS-102 pour un environnement non contrôlé. L'antenne(s) utilisée pour ce transmetteur doit être installée pour fournir une distance de séparation d'au moins 20 cm de toutes les personnes et ne doit pas être co-localisée ou fonctionner en conjonction avec une autre antenne ou transmetteur.

Ce module est étiqueté avec son propre ID IC. Si le numéro de certification IC ID n'est pas visible lorsqu'il est installé à l'intérieur d'un autre appareil, l'appareil doit afficher l'étiquette sur le module de référence ci-joint. Dans ce cas, le produit final doit être étiqueté dans un endroit visible par le texte suivant:

“Contains Transmitter Module IC: 24739-SMARTSYNC”

OR

“Contains IC: 24739-SMARTSYNC ”