

Allegro Repeater (2WREP)

Installation

Instructions

FCC ID: NTA2WREP2
IC: 4732A-2WREP2



Compliance with FCC Regulations

CAUTION



The User and the Installer should be aware that changes and modifications to the equipment not expressly approved by Master Meter could void warranty and the user's authority to operate the equipment. Professionally trained personnel should install the equipment.

ATTENTION



The digital portion of the transceiver 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 or more of the following measures:

- 1.) Reorient or relocate the receiving antenna.
- 2.) Increase the separation between the equipment and receiver.
- 3.) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4.) Consult the dealer or an experienced radio/TV technician for help.



FCC and Industry Canada statements

This device complies with Part 15 of FCC Rules and with Industry Canada license-exempt RSS standard(s). 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.

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.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS-102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

The antenna used for this transmitter must be installed to normally provide minimum 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.

Le dispositif doit être placé à une distance d'au moins 20 cm à partir de toutes les personnes au cours de son fonctionnement normal. Les antennes utilisées pour ce produit ne doivent pas être situés ou exploités conjointement avec une autre antenne ou transmetteur.



Table of Content

1. INTRODUCTION 5

2. ABOUT 2WREP 5

2.1. 2WREP EXTERNAL PICTURE 6

2.2. 2WREP INTERNAL PICTURE 8

2.3. FCC LABEL ERROR! BOOKMARK NOT DEFINED.

2.4. ENVIRONMENTAL CONDITIONS..... 9

3. INSTALLATION INSTRUCTION 10



1. Introduction

The Allegro repeater ("2WREP") is a plug and play multi-channel/ frequency RF transceiver unit operates at 450 – 470MHz ISM band.

The 2WREP unit is designated to transceiver/ collects wireless transmissions of water meter.

The 2WREP sends the collected data through external antenna.

The 2WREP includes the following on board interfaces which are used to send the collected data:

- TCP/IP stack and 10/100 BASE-T Ethernet connection
- USB
- RS232
- Digital I/O: Logic High Level Vcc-0.6V, Logic Low Level 0-0.6V, Current 30mA

2. About 2WREP

1. Electrical Performance

The Repeater is a narrow band radio that complies with FCC Part 90

There are 2 modes of operation

- Transmit narrow channel complies Part 90
- Receive narrow channel



1.1. Transmit Narrow Channel, complies with Part 90

Narrow Channel	
Parameter	Value
Transmit frequency band	450-470 MHz*
Channel Separation	6.25kHz
Modulation	4GFSK
Peak output power	35.2 dBm
Max Data rate	4.8 kbps
Frequency stability (including initial stability, temperature)	<1.0 ppm
Transmit duty cycle	Maximum transmit time 0.32s, pause 20s

*Note: Operation limited to channels defined in 47 CFR §90.261.

1.2. Receiver

Receive Parameters	
Parameter	Value
Receive frequency	Programmable in the range 450-470 MHz
Sensitivity (BER 1E-3)	-120 dBm
Modulation	4GFSK
Frequency deviation	1.2 kHz

2.1WREP external picture





Figure 1



2.2WREP front panel



Figure 2



2.3 WREP rear panel



Figure 3

2.4 Environmental Conditions

Operating Temperature: -40° C to + 70° C

Storage Temperature: -40° C to + 70° C

Humidity: Up to 95%



3. Installation instruction

Place 2WREP in a plastic box and connect the connectors on the rear panel to the power supply, battery charging and I/O. (see Figure3)

Connect antenna to the antenna's connector. (see Figure2)

The 2WREP can be installed on both walls and light poles.

Attach the relevant hanging kit (see

Figure 4, Figure 5) to the back of the 2WREP according to required hanging destination.

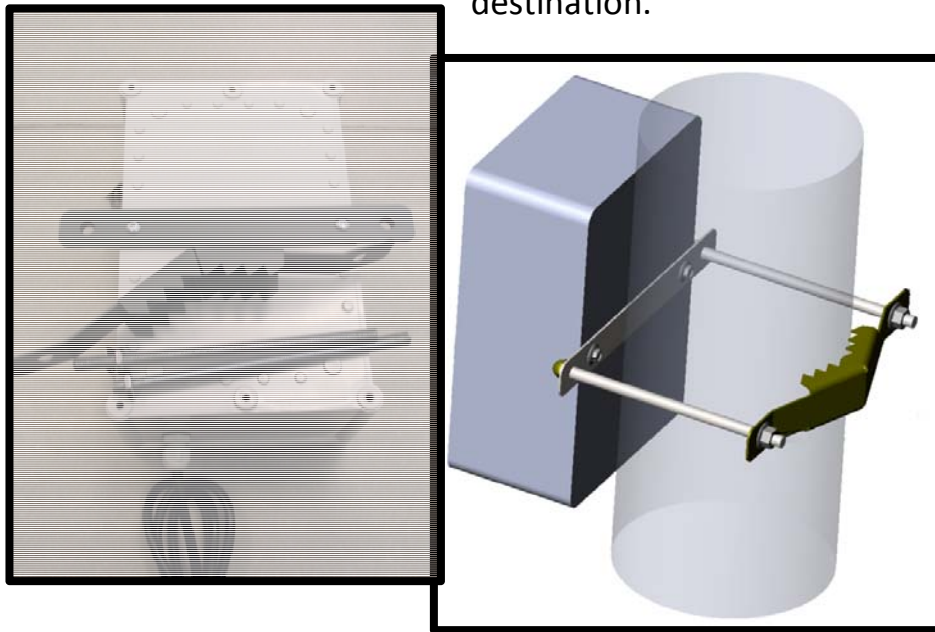


Figure 4 – Light pole hanging kit

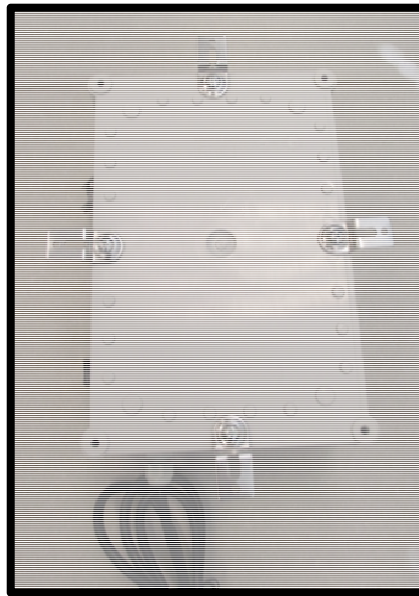


Figure 5 – Wall hanging kit

Open the 2WREP box by pushing the locking tab and make sure that Antenna connected properly.

	Pay attention!! Do not open the repeater with strength, push the locking tabs and pull the hinges.
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Figure 6



Connect the 2WREP to power source (110VAC) and change the transceiver switch into "ON" state, see Figure 7.



Figure 7

Working 2WREP indicates with green and orange blinking LED's.
Close the 2WREP box it is now ready to collect water meters.

4. Antenna requirements.

This radio transmitter (Allegro Repeater) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (Allegro Repeater) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

