

The R450DC data collector is a digital 10-Watt UHF data transceiver that operates in the licensed 450 MHz to 470 MHz band to wirelessly receive, acknowledge and collect water utility consumption readings for up to several thousand residential, commercial and industrial water meters daily (endpoints). The unit is offered in a CDMA/GMS cellular modem version (PN 12799-800) and Ethernet version (PN 12799-810) that allows two ways for collected water meter data to be transmitted to the utility's (customer's) backend server for processing and billing. Both versions interface to an external omnidirectional antenna to collect (receive) and acknowledge (transmit) meter readings. The device is also capable of reprogramming endpoints wirelessly through over-the-air-programming (OTAP). The cellular modem version features a 2nd external antenna interface for an external omnidirectional antenna that operates in the licensed cellular bands.

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ALL TEXT TO BE SOLID BLACK 2.75 1.25 NEPTUNE MODEL: R450DC P/N.: 12799-800 FCC ID: P2SR450DC THIS DEVICE 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 UNDESIRE FC THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003. Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada. CONTAINS CALAMP VANGUARD 3000 CDMA/GSM MODEM FCC ID: QIPPS8 IC: 7830APXS8 MIDLAND BASE TECH III RADIO FCC ID: MMA914100B RATING: 12VDC, 7A R.06 SERIAL NUMBER LABEL TO BE PLACED HERE 3 4 BACKGROUND TO BE GREY PMS 422C NO. 7985-217 <table><tr><td>REV</td><td>ZN</td><td>DESCRIPTION</td><td>DATE</td><td>AUTH</td><td>BY</td><td>CKD</td><td>APPD</td></tr><tr><td>A</td><td></td><td>INITIAL RELEASE</td><td>—</td><td>S5107</td><td>TLP</td><td></td><td></td></tr><tr><td>B</td><td></td><td>REMOVED NEPTUNE SYMBOL (ZONE 7E); MODEL w/ 450 DC (ZONE 7D); ADDED FCC ID : P2SR450DC (ZONE 7D); REMOVED ID BAR CODE P/N AREA (ZONE 6D); TABLE: CALAMP...FCC ID w/ N7NMC8355, IC ID w/ 2417C-MC8355; REMOVED MIDLAND IC: TBD (ZONE 5C); RATING: 7A w/ 3A (ZONE 6D); FLAG NOTE 3, R450DCXXXX w/ R450 DCXXXXX; ADDED FLAG NOTES 3 & 4; TITLE BLOCK: ADDED R450DC</td><td>11/14/17</td><td>S5107</td><td>GBJ</td><td>PC</td><td>GWH</td></tr></table>				REV	ZN	DESCRIPTION	DATE	AUTH	BY	CKD	APPD	A		INITIAL RELEASE	—	S5107	TLP			B		REMOVED NEPTUNE SYMBOL (ZONE 7E); MODEL w/ 450 DC (ZONE 7D); ADDED FCC ID : P2SR450DC (ZONE 7D); REMOVED ID BAR CODE P/N AREA (ZONE 6D); TABLE: CALAMP...FCC ID w/ N7NMC8355, IC ID w/ 2417C-MC8355; REMOVED MIDLAND IC: TBD (ZONE 5C); RATING: 7A w/ 3A (ZONE 6D); FLAG NOTE 3, R450DCXXXX w/ R450 DCXXXXX; ADDED FLAG NOTES 3 & 4; TITLE BLOCK: ADDED R450DC	11/14/17	S5107	GBJ	PC	GWH	E																																																			
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RELEASED FOR PILOT PRODUCTION ONLY REVISION: B DATE: 11/16/17 ENGINEER: GWH QTY: 50 NOTES: 1. .005 CLEAR MYLAR OR EQUIVALENT UL 969 RECOGNIZED FOR OUTDOOR USE. 2. ARTWORK SUPPLIED BY NEPTUNE. 3 SERIAL NUMBER FORMAT TO BE THE FOLLOWING: R450DCXXXX 4 SERIAL NUMBER LABEL (ITEM 36 ON 12799-8XX) TO BE INSTALLED HERE.								B																																																																							
<table><tr><td rowspan="5">NEPTUNE Technology Group, Inc. CONFIDENTIAL AND PROPRIETARY THIS DOCUMENT CONTAINS THE TRADE SECRETS AND CONFIDENTIAL INFORMATION OF NEPTUNE Technology Group, INC., WHICH EMBODY SUBSTANTIAL CREATIVE EFFORT, IDEAS, AND EXPRESSIONS WHICH ARE NOT TO BE DIVULGED TO THIRD PARTIES WITHOUT SPECIFIC WRITTEN PERMISSION FROM NEPTUNE Technology Group, INC.</td><td colspan="2">SPECIAL HANDLING</td><td colspan="2">MATERIAL SPEC.</td><td colspan="2">DO NOT SCALE DRAWING</td><td colspan="2">DWN. TLP 1/20/14</td><td colspan="2" rowspan="3">TITLE LABEL, FCC RATING (CELLULAR MODEM VERSION)</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">UNLESS OTHERWISE SPECIFIED</td><td colspan="2">CKD. PC 11/16/17</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">BREAK EDGES .005/.015 DECIMALS INCH 2 PL ± .01 3 PL ± .005 FIN. SURF. 125°</td><td colspan="2">APPD. GWH 11/30/17</td></tr><tr><td colspan="2">DIMENSION SPEC.</td><td colspan="2"></td><td colspan="2">SPECIFICATIONS</td><td colspan="2">FRACTIONS ± 1/64 MM 1 PL ± .1 2 PL ± .05 ANGLES ± 1°</td><td colspan="2">APPD.</td></tr><tr><td colspan="2">* NON-LINKED DIMENSION</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">SCALE 2:1</td></tr><tr><td colspan="2">NOTICE:</td><td colspan="2">SAVED IN CAD AS:</td><td colspan="2">FINISH SPEC.</td><td colspan="2"></td><td colspan="2">SCALE 2:1</td><td colspan="2">NO. 7985-217</td></tr><tr><td colspan="2">© COPYRIGHT _____ NEPTUNE Technology Group, Inc.</td><td colspan="2">7985-217</td><td colspan="2"></td><td colspan="2"></td><td colspan="2">NEPTUNE TECHNOLOGY GROUP</td><td colspan="2">SHT. 1 OF 1 B</td></tr></table>								NEPTUNE Technology Group, Inc. CONFIDENTIAL AND PROPRIETARY THIS DOCUMENT CONTAINS THE TRADE SECRETS AND CONFIDENTIAL INFORMATION OF NEPTUNE Technology Group, INC., WHICH EMBODY SUBSTANTIAL CREATIVE EFFORT, IDEAS, AND EXPRESSIONS WHICH ARE NOT TO BE DIVULGED TO THIRD PARTIES WITHOUT SPECIFIC WRITTEN PERMISSION FROM NEPTUNE Technology Group, INC.	SPECIAL HANDLING		MATERIAL SPEC.		DO NOT SCALE DRAWING		DWN. TLP 1/20/14		TITLE LABEL, FCC RATING (CELLULAR MODEM VERSION)						UNLESS OTHERWISE SPECIFIED		CKD. PC 11/16/17						BREAK EDGES .005/.015 DECIMALS INCH 2 PL ± .01 3 PL ± .005 FIN. SURF. 125°		APPD. GWH 11/30/17		DIMENSION SPEC.				SPECIFICATIONS		FRACTIONS ± 1/64 MM 1 PL ± .1 2 PL ± .05 ANGLES ± 1°		APPD.		* NON-LINKED DIMENSION								SCALE 2:1		NOTICE:		SAVED IN CAD AS:		FINISH SPEC.				SCALE 2:1		NO. 7985-217		© COPYRIGHT _____ NEPTUNE Technology Group, Inc.		7985-217						NEPTUNE TECHNOLOGY GROUP		SHT. 1 OF 1 B		A
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NO.812-9862

REV	ZN	DESCRIPTION	DATE	AUTH	BY	CKD	APPD
A		INITIAL RELEASE	—	S5107	TLP	MS	MFM
B		REMOVED NEPTUNE SYMBOL (ZONE 7D); MODEL: w/ 450DC (ZONE 7D); ADDED FCC ID:P2SR450DC (ZONE 7D); REMOVED ID BARCODE P/N (ZONE 6D) REMOVED IC: TBD (ZONE 5D); RATING: 7A w/ 3A (ZONE 5C); MODIFIED TEXT ON SERIAL LABEL PLACEMENT; FLAG NOTE 3, R450DCXXXX w/ R450DCXXXX; ADDED FLAG NOTE 4; TITLE BLOCK: ADDED R450DC	11/14/17	S5107	GBJ	PC	GWH

ALL TEXT TO BE SOLID BLACK

2.75

1.25

NEPTUNE

MODEL: R450DC

P/N.: 12799-810

FCC ID: P2SR450DC

THIS DEVICE 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 UNDESIRE D OPERATION.

THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.
Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.

CONTAINS

MIDLAND BASE TECH III RADIO

FCC ID: MMA914100B

RATING: 12VDC, 7A

SERIAL NUMBER LABEL TO BE PLACED HERE

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R.06

BACKGROUND TO BE GREY PMS 422C

RELEASED FOR PILOT PRODUCTION ONLY

REVISION: B DATE: 11/16/17
ENGINEER: GWH QTY: 50

NOTES:

1. .005 CLEAR MYLAR OR EQUIVALENT UL 969 RECOGNIZED FOR OUTDOOR USE.

2. ARTWORK SUPPLIED BY NEPTUNE.

3 SERIAL NUMBER FORMAT TO BE THE FOLLOWING: R450DCXXXX.

4 SERIAL NUMBER LABEL (ITEM 36 ON 12799-8XX) TO BE INSTALLED HERE.

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			SEE NOTE 1		UNLESS OTHERWISE SPECIFIED		CKD. MS 3/12/14					
					BREAK EDGES .005/.015		DECIMALS INCH 2 PL ± .01 3 PL ± .005				FIN. SURF. 125	
					FRACTIONS ± 1/64		MM 1 PL ± .1 2 PL ± .05				ANGLES ± 1°	
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* NON-LINKED DIMENSION								APPD.				
								SCALE 2:1				
NOTICE:		SAVED IN CAD AS:		FINISH SPEC.				NEPTUNE TECHNOLOGY GROUP		NO. 7985-218		
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