

Transit-Time Ultrasonic Flowmeter



Description

The *NonContact Meters™* NCM Series Clamp-on Ultrasonic Transit Time Flow and Energy Meter installs in seconds on most pipe materials. Recommended for full-pipe clean to dirty liquids applications. Typical examples include water, well water, chilled water, hot water, city water, cooling tower water, deionized water, sea water, sewage and acids.

The NCM is available in two versions: NCMB, a stand-alone flow meter and NCME, an energy flow meter monitoring flow and dual clamp-on RTDs. The energy flow meter measures energy usage in BTU or Tons and is ideal for retrofit, chilled water and other HVAC applications.

Reference the following list for quick ordering of complete KITS.

BUDGET PRICE

Part Number	Kits	
NCMBA-KIT20	Ultrasonic Flow Meter, Power VAC, Transducer 2" to 48", 20 ft cable & Mtg Kit	\$2,450
NCMBA-KIT50	Same as NCMBA-KIT20 except with 50 ft of cable	\$2,500
NCMBA-KIT100	Same as NCMBA-KIT20 except with 100 ft of cable	\$2,650
NCMBD-KIT20	Ultrasonic Flow Meter, Power VDC, Transducer 2" to 48", 20 ft cable & Mtg Kit	\$2,300
NCMBD-KIT50	Same as NCMBD-KIT20 except with 50 ft of cable	\$2,400
NCMBD-KIT100	Same with 100 ft of cable	\$2,500
NCMEA-KIT20	Energy Ultrasonic Flow Meter, Power VAC, Transducer 2" to 48", 20 ft cable, (2) Clamp-on RTD with 20 ft cable & Mtg Kit	\$4,000
NCMEA-KIT50	Same as NCMEA-KIT20 except with 50 ft of Transducer cable	\$4,100
NCMEA-KIT100	Same as NCMEA-KIT20 except with 100 ft of Transducer cable	\$4,200

Features:

- Ideal for your Water & HVAC Applications
- Clamp-On Transducers
- Line Sizes 0.5" to 48" And Larger!
- Energy Model, Temperature, BTU

SPECIFICATIONS:

NCMBD-KIT20, 50, 100
NCMBA-KIT20, 50, 100



Includes the following: Transmitter / Indicator

- Enclosure.....Nema 4X(IP65) w/ Mtg Bracket
- Power..... **NCMBD** 10-28 VDC@5VA
NCMBA 90-264 VAC,47-63 Hz
- LCD Display.....Flow rate, total, direction,
Flow 6 digit LCD
programmable units English & Metric.
- Data Entry.....Keypad or usb cable, Software
- Flow Range.....Bi-directional 0.1 to 40 FPS.
- Output..... RS485: Modbus RTU
command set
4-20mA: 12-bit, internal power
0-1,000 Hz: open collector
(2) Alarm: Open-collector,
alarm or totalizer pulse
- Accuracy..... 1% of rate >0.1 FPS(.3 MPS)
within 0.01 FPS (0.003 MPS)
at lower rates.
- Temp..... Transmitter -4⁰ to 140⁰ F



Transducers

- Type..... (Pair) 1 MHz transducers,
Clamp-On
- Pipe Size..... 2" to 48"
- Cable Coaxial cable
KIT20 = 20 ft
KIT50 = 50 ft
KIT100 = 100 FT.
- Pipe materials.... Carbon steel, stainless steel,
cast iron, copper, pvc,
aluminum, ductile iron, pvdf
and others.
- Mounting Kit..... Mtg strap(s) & sonic
coupling compound.
- Temperature..... Transducer, -40 to 250⁰ F
(-40 to 121⁰ C)

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FLOW

Transit-Time Ultrasonic Flow Meter



If you need to order specific parts, spare parts, accessories, sonic coupling compound, use the following table to customize your shopping list.

Customize

BUDGET

Part Number	Flow Meter Model	Price
NCMB-ZNDKNN-FN	Transmitter / Indicator with DC Power.	\$1,600
NCMB-ZNAKNN-FN	Transmitter / Indicator with AC Power.	\$1,700
NCMB-ZNDKEN-FN	Transmitter / Indicator with Communications ,DC Power.	\$2,150
NCMB-ZNAKEN-FN	Transmitter / Indicator with Communications ,AC Power.	\$2,250
	Energy Meter Model	
NCME-ZNDKNB-NN	Transmitter / Indicator with DC Power. *	\$2,800
NCME-ZNAKNB-NN	Transmitter / Indicator with AC Power *	\$2,900
NCME-ZNDKEB-NN	Transmitter / Indicator with Comm, DC Power *	\$3,350
NCME-ZNAKEB-NN	Transmitter / Indicator with Comm ,AC Power *	\$3,500
	Strap-on RTD's*	
RTD-3B-20	RTD, 20ft wire, mtg kit	\$380
RTD-3B-50	RTD, 50ft wire, mtg kit	\$430
	Transducers	
DTTN-020-N000-N	Pipe Dia 2" to 36" with 20 FT of cable with mounting kit. 1 MHz, STD Temp	\$700
DTTN-050-N000-N	Pipe Dia 2" to 36" with 50 FT of cable with mounting kit. 1 MHz, STD Temp	\$790
DTTN-100-N000-N	Pipe Dia 2" to 36" with 100 FT of cable with mounting kit. 1 MHz, STD Temp	\$900
	Call for more pipe sizes.	
	Options	
NIST-CAL	Annual NIST Calibration, Traceable	\$560
F-100-100	Sonic Silicone Grease, Tube 5oz	\$20
PS-24-300	Power Supply 115 VAC to 24VDC, Panel mt.	\$90

SPECIFICATIONS: NCMB Flow Meter Model NCME Energy Meter Model Transmitter / Indicator

Enclosure.....	Nema 4X(IP65) w/ Mtg Bracket
Power.....	DC:10-28 VDC@5VA Max (Opt- PS-24-300: 120 VAC to 24 VDC 300MA, Panel mt) AC: VAC 100 to 240
LCD Display.....	Flow Rate, Total, direction, Flow 6 digit LCD
Units.....	Flow Meter: Feet, gallons, cubic feet, million gallons, barrels (liquor and oil), acre-feet, lbs., meters, cubic meters, liters, million liters, kg Energy Meter: BTU, MBTU, MMBTU, Tons and the Flow Meter list from above
Data Entry.....	Keypad or usb cable, software
Flow Range.....	Bi-directional 0.1 to 40 FPS.
Output.....	RS485: Modbus RTU command set 4-20mA: 12-bit, internal power 0-1,000 Hz: open collector (2) Alarm: Open-collector, alarm or totalizer pulse
	Communications Option 10/100 Base-T, EtherNet, BACnet/IP, Modbus TCP/IP
Input.....	Energy Meter Option 3 wire RTD 1000 Ohm Meter STD temp range 32 to 212 ⁰ F (-40 to 121 ⁰ C).
RTD.....	(Option) P/N# RTD-3B-20, (set) 3 wire RTD 1000 Ohm, 20 ft of wire, strap on kit. (Option) P/N# RTD-3B-50 (set) 50 ft of wire, strap on kit
Accuracy...	1% of rate >0.1 FPS(.3 MPS) within 0.01 FPS (0.003 MPS) at lower rates.
Temp.....	Transmitter -4 ⁰ to 140 ⁰ F



Transducers

Type.....	(Pair) 1 MHz transducers, Clamp-On
Pipe Size.....	2" to 48"
Cable	Coaxial cable KIT20 = 20 ft KIT50 = 50 ft KIT100 = 100 FT.
Pipe materials....	Carbon steel, stainless steel, cast iron, copper, pvc, aluminum, ductile iron, pvdf and others.
Mounting Kit.....	Mtg strap(s) & Sonic coupling compound.
Temperature.....	Transducer, -40 to 250 ⁰ F (-40 to 121 ⁰ C)

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2 MHz, DTTS-Small Pipe Remote Transducers

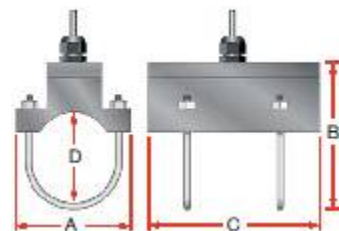
Select a transmitter from page 2 and select a Remote small pipe transducer for pipe sizes 2" to 0.5", Std cable length is 20 ft to make a system.
For transmitters with Integral small pipe transducers go to page 4.

Pipe Size	P/N	Pipe Material	A	B	C	D	Measuring Range	Price
1/2"	DTTSDP-020-N000	ANSI Pipe	2.46 (62.5)	1.86 (47.2)	2.50 (63.5)	.840 (21.3)	.5-25 GPM 2-100 LPM	\$570
	DTTSDC-020-N000	Copper Tube	2.46 (62.5)	2.13 (54.1)	3.33 (84.6)	.625 (15.9)	.5-25 GPM 2-100 LPM	↓
	DTTSDT-020-N000	Tubing	2.46 (62.5)	1.99 (50.5)	3.33 (84.6)	.500 (12.7)	.5-25 GPM 2-100 LPM	
3/4"	DTTSFP-020-N000	ANSI Pipe	2.46 (62.5)	2.07 (52.6)	2.66 (67.6)	1.050 (26.7)	1-55 GPM 4-200 LPM	
	DTTSFC-020-N000	Copper Tube	2.46 (62.5)	2.25 (57.2)	3.56 (90.4)	.875 (22.2)	1-55 GPM 4-200 LPM	
	DTTSFT-020-N000	Tubing	2.46 (62.5)	2.12 (53.8)	3.56 (90.4)	.750 (19.0)	1-55 GPM 4-200 LPM	
1"	DTTSGP-020-N000	ANSI Pipe	2.46 (62.5)	2.42 (61.5)	2.86 (72.6)	1.315 (33.4)	2-100 GPM 8 - 375 LPM	\$600
	DTTSGC-020-N000	Copper Tube	2.46 (62.5)	2.37 (60.2)	3.80 (96.5)	1.125 (28.6)	2-100 GPM 8 - 375 LPM	↓
	DTTSGT-020-N000	Tubing	2.46 (62.5)	2.25 (57.2)	3.80 (96.5)	1.000 (25.4)	2-100 GPM 8 - 375 LPM	
1-1/4"	DTTSHP-020-N000	ANSI Pipe	2.79 (70.9)	2.68 (68.0)	3.14 (79.8)	1.660 (42.2)	4-150 GPM 15-570 LPM	
	DTTSHC-020-N000	Copper Tube	2.46 (62.5)	2.50 (63.5)	4.04 (102.6)	1.375 (34.9)	4-150 GPM 15-570 LPM	
	DTTSHT-020-N000	Tubing	2.46 (62.5)	2.37 (60.2)	4.04 (102.6)	1.250 (31.8)	4-150 GPM 15-570 LPM	
1-1/2"	DTTSJP-020-N000	ANSI Pipe	3.02 (76.7)	2.92 (74.2)	3.33 (84.6)	1.900 (48.3)	5-220 GPM 18-830 LPM	↓
	DTTSJC-020-N000	Copper Tube	2.71 (68.8)	2.63 (66.8)	4.28 (108.7)	1.625 (41.3)	5-220 GPM 18-830 LPM	
	DTTSJT-020-N000	Tubing	2.71 (68.8)	2.49 (63.2)	4.28 (108.7)	1.500 (38.1)	5-220 GPM 18-830 LPM	
2"	DTTSLP-020-N000	ANSI Pipe	3.50 (88.9)	3.42 (86.9)	3.69 (93.7)	2.375 (60.3)	8-400 GPM 30-1500 LPM	\$650
	DTTSLC-020-N000	Copper Tube	3.21 (81.5)	3.38 (85.9)	4.75 (120.7)	2.125 (54.0)	8-400 GPM 30-1500 LPM	↓
	DTTSLT-020-N000	Tubing	3.21 (81.5)	3.24 (82.3)	4.75 (120.7)	2.000 (50.8)	8-400 GPM 30-1500 LPM	

Pipe sizes 1/2" to 2" (12mm to 50mm)



ANSI & Copper 2" (50 mm) Models



DTTS: Nema 6 (IP67) , Temp -40 to 185⁰ F, (-40 to 85⁰ C) , 2 MHz.
Cable length: STD 20 ft. Optional 50 & 100 ft lengths.

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2 MHz, Integral Mount Small Pipe Transducers

The small pipe integral mount series comes with a NCMB or NCME transmitter / indicator and are pre-programmed for a specific pipe size and material. Note the mechanical pipe outside dimension dictate the correct part number. This meter is provided without any keypad (keypad is optional). Additional programming and diagnostics programmed communications are with an included USB cable and software kit. Transducer specifications for this series are Nema 6 (IP67) Temp -40 to 185⁰ F, (-40 to 85⁰ C) , 2 MHz.

Please call for prices.

Pipe Size	P/N	Power	Pipe Material	A	B	C	D	Measuring Range	Price
1/2"	NCMB-APAKNNFN	AC	ANSI Pipe	2.46	1.86	2.50	.840	.5-25 GPM	
	NCMB-APDKNNFN	DC		(62.5)	(47.2)	(63.5)	(21.3)	2-100 LPM	
	NCMB-GPAKNNFN	AC	Copper Tube	2.46	2.13	3.33	.625	.5-25 GPM	
	NCMB-GPDKNNFN	DC		(62.5)	(54.1)	(84.6)	(15.9)	2-100 LPM	
	NCMB-MPAKNNFN	AC	Tubing	2.46	1.99	3.33	.500	.5-25 GPM	
	NCMB-MPDKNNFN	DC		(62.5)	(50.5)	(84.6)	(12.7)	2-100 LPM	
3/4"	NCMB-BPAKNNFN	AC	ANSI Pipe	2.46	2.07	2.66	1.050	1-55 GPM	
	NCMB-BPDKNNFN	DC		(62.5)	(52.6)	(67.6)	(26.7)	4-200 LPM	
	NCMB-HPAKNNFN	AC	Copper Tube	2.46	2.25	3.56	.875	1-55 GPM	
	NCMB-HPDKNNFN	DC		(62.5)	(57.2)	(90.4)	(22.2)	4-200 LPM	
	NCMB-NPAKNNFN	AC	Tubing	2.46	2.12	3.56	.750	1-55 GPM	
	NCMB-NPDKNNFN	DC		(62.5)	(53.8)	(90.4)	(19.0)	4-200 LPM	
1"	NCMB-CPAKNNFN	AC	ANSI Pipe	2.46	2.42	2.86	1.315	2-100 GPM	
	NCMB-CPDKNNFN	DC		(62.5)	(61.5)	(72.6)	(33.4)	8 - 375 LPM	
	NCMB-IPAKNNFN	AC	Copper Tube	2.46	2.37	3.80	1.125	2-100 GPM	
	NCMB-IPDKNNFN	DC		(62.5)	(60.2)	(96.5)	(28.6)	8 - 375 LPM	
	NCMB-PPAKNNFN	AC	Tubing	2.46	2.25	3.80	1.000	2-100 GPM	
	NCMB-PPDKNNFN	DC		(62.5)	(57.2)	(96.5)	(25.4)	8 - 375 LPM	
1-1/4"	NCMB-DPAKNNFN	AC	ANSI Pipe	2.79	2.68	3.14	1.660	4-150 GPM	
	NCMB-DPDKNNFN	DC		(70.9)	(68.0)	(79.8)	(42.2)	15-570 LPM	
	NCMB-JPAKNNFN	AC	Copper Tube	2.46	2.50	4.04	1.375	4-150 GPM	
	NCMB-JPDKNNFN	DC		(62.5)	(63.5)	(102.6)	(34.9)	15-570 LPM	
	NCMB-QPAKNNFN	AC	Tubing	2.46	2.37	4.04	1.250	4-150 GPM	
	NCMB-QPDKNNFN	DC		(62.5)	(60.2)	(102.6)	(31.8)	15-570 LPM	
1-1/2"	NCMB-EPAKNNFN	AC	ANSI Pipe	3.02	2.92	3.33	1.900	5-220 GPM	
	NCMB-EPDKNNFN	DC		(76.7)	(74.2)	(84.6)	(48.3)	18-830 LPM	
	NCMB-KPAKNNFN	AC	Copper Tube	2.71	2.63	4.28	1.625	5-220 GPM	
	NCMB-KPDKNNFN	DC		(68.8)	(66.8)	(108.7)	(41.3)	18-830 LPM	
	NCMB-RPAKNNFN	AC	Tubing	2.71	2.49	4.28	1.500	5-220 GPM	
	NCMB-RPDKNNFN	DC		(68.8)	(63.2)	(108.7)	(38.1)	18-830 LPM	
2"	NCMB-FPAKNNFN	AC	ANSI Pipe	3.50	3.42	3.69	2.375	8-400 GPM	
	NCMB-FPDKNNFN	DC		(88.9)	(86.9)	(93.7)	(60.3)	30-1500 LPM	
	NCMB-LPAKNNFN	AC	Copper Tube	3.21	3.38	4.75	2.125	8-400 GPM	
	NCMB-LPDKNNFN	DC		(81.5)	(85.9)	(120.7)	(54.0)	30-1500 LPM	
	NCMB-SPA KNNFN	AC	Tubing	3.21	3.24	4.75	2.000	8-400 GPM	
	NCMB-SPDKNNFN	DC		(&1.5)	(82.3)	(120.7)	(50.8)	30-1500 LPM	

