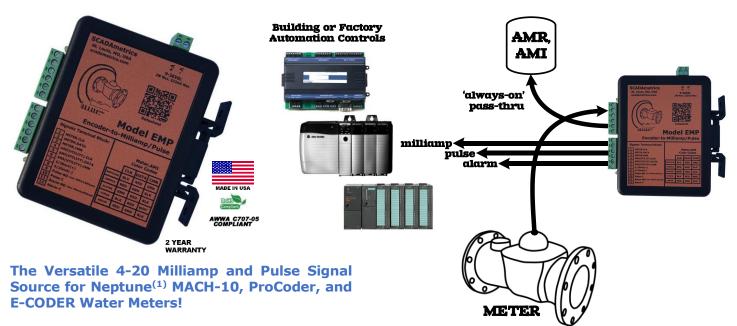
SCADAMETRICS®

The SignalizerTM

Model EMP - US Patent No. 11,041,738





SCADAmetrics[®] is pleased to introduce the newest member of its DINstrumentation[™] series – **The Signalizer**[™]!

This new electronic signal generator for water meters provides a 4-20 milliamp (flow) output and a dry contact pulse (per volume) output! – while still maintaining the meter's ability to be co-connected to an AMI/AMR endpoint!

Meter Owners have traditionally been required to make a weighted buying decision: encoder-type meter?... or milliamp/pulse-type meter? **The Signalizer** allows you to easily have both with the same meter!

The Signalizer utilizes the popular encoder signal from the water meter to generate both a 4-20mA rate-of-flow signal¹ and a dry-contact pulse-per-volume signal. ...And because **The Signalizer** is outfitted with an integral pass-thru port, it can co-exist with an AMI/AMR system⁽²⁾. Even if power is removed, the pass-thru port is always functional – ensuring continuous connectivity to the AMR/AMI system!

The Signalizer is compatible with the Neptune PROCODER, E-CODER, and MACH-10⁽³⁾ registers.

(1)Encoder Resolution – a high-fidelity 4-20mA signal requires high-resolution encoder resolution (8+ digits). Therefore, for optimal SIGNALIZER performance, we recommend the MACH-10, PROCODER or E-CODER register. When the SIGNALIZER is utilized with a ProRead register, it will only produce a pulse output signal. The SIGNALIZER is NOT compatible with the R900i (integrated radio) versions of these registers.

⁽²⁾**Permitting** – If the meter is owned by the water utility, we recommend that you first contact its engineering department for permission!

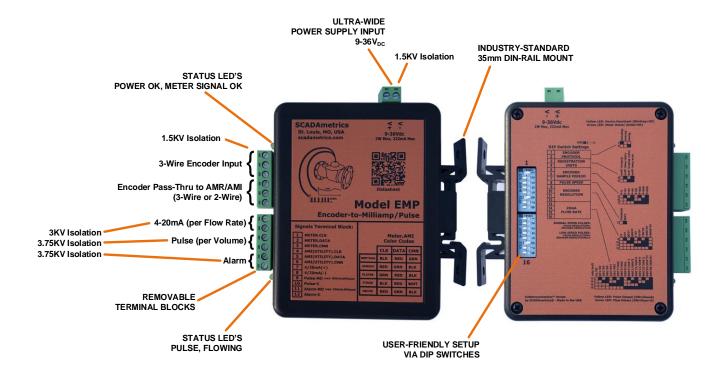
(3)MACH-10 Reaction Time – In order to preserve the battery life of the MACH-10, the sample period of the Signalizer should be set to 300+ seconds, resulting in a signal reaction delay of up to 300s for both the 4-20mA and pulse signals. If a more "realtime" signal is required, then a mechanical meter with PROCODER or E-CODER register should be used.

Key Features -

- 4-20mA Flow-Proportional Output (3KV Isolation).
- Dry-Contact, Volume-Proportional Output (3.75KV Isolation).
- Dry-Contact Alarm Output (3.75KV Isolation).
- Built-In Pass-Thru Port for Co-Connection to an AMI/AMR System Works Even If Power Down!
- Compatible with MACH-10, PROCODER, and E-CODER registers.
- Works with All Popular Registration Units (Gallons, Cubic Feet, Cubic Meters, Acre Feet).
- No Computer Required! Setup via DIP Switches Only!
- Removable Terminal Blocks, Simplified Wiring Procedures.
- Mounts on standard 35mm industrial DIN-rail.
- 24VDC-Powered (1.5KV Isolation). Low 1.2W Power Consumption.
- Enclosure and Circuit Board: UL 94-VO recognized materials.
- Simulation-Mode Feature: Emits 12mA and 1 Hz Pulse.

Are you interested in how SCADAmetrics meter technology can help you more closely monitor the flow through your water meters? Give us a call! We'll be glad to discuss the details!

SCADAmetrics scadametrics.com Wildwood, Missouri USA 636.405.7101



Engineering Specifications -

Dimensions: 4.5" x 5.0" x 1.275"

Weight: 6.5 Ounces Supply Voltage: $9-36V_{DC}$ Supply Power: 1.25W Power Supply Isolation: $1500V_{RMS}$

Neptune Protocol Support: Yes, 8,9-Digit "MACH-10/ProCoder/E-CODER", and 6-Digit "ProRead" Protocols

Sensus Protocol Support: Yes, Both Fixed and Variable Digit Sensus Protocols (4-9 digits)

Elster Protocol Support: Yes, Auto-Fills Units and Decimal Shift, Based on Embedded Info within Elster K-Frame

AMI Pass-Thru Port Support: Universal – Works with All Major-Brand AMI/AMR Endpoints:

Neptune, Sensus, Aclara, Badger, Metron-Farnier, Itron, Master Meter, Hersey/Mueller, RG3, Zenner, Honeywell, Kamstrup, SCADAmetrics, Touchpads (All), Remote Displays (All)

Supported Units: Gallon, Cubic Feet, Cubic Meters, Acre-Feet

Supported Scalors: x1, x10, x100, x1,000 --- x0.1, x0.001, x0.0001, x0.00001

Encoder Sample Period (s): 5, 10, 15, 30, 60, 300, 600, 900 (User-Selectable)

Programming Method: Integrated DIP Switches, 16-Poles

4-20mA Flow Range (gpm): 20,30,50,80,125,200,300,500,750,1200,2000,3000,4600,7300,11400,18000

4-20mA Flow Range (lpm): 75,120,200,300,475,750,1200,2000,3000,4500,7000,11000,17500,27500,43000,68000

4-20mA Resolution: 16-Bit DAC 4-20mA Isolation: 3000 V_{RMS} 4-20mA Max Series Resistance: 500 Ω

4-20mA Signal Type: Active. Therefore, do not add an external loop supply, or else damage to the unit will result!

Pulse Output Type: Solid-State Dry-Contact, 1 Pulse-per-Encoder Resolution Contact Closure Duration: 50% Duty Cycle or 1000ms – whichever is less

Alarm Output Type: Solid-State Dry-Contact, Closes if Meter or Signalizer Fault

Pulse Resolution: Normal-Speed Mode: Pulse Resolution = Encoder Resolution

Low-Speed Mode: Pulse Resolution = Encoder Resolution / 10

Closed-Contact Resistance: 0.4 ohm, typical

Closed-Contact Max Current: 500mA Open-Contact Max Voltage: 60V Pulse/Alarm Isolation: 3750V_{RMS}

Meter Cable Connection:

3-Position, Removable Screw-Down Terminal Block, 12-26 AWG
Pass-Thru Cable Connection:

3-Position, Removable Screw-Down Terminal Block, 12-26 AWG

Pass-Thru Port for AMR/AMI: Yes, Supports both 3-Wire and 2-Wire AMR Devices

Temperature: -40C to 85C (-40°F to 185°F) Relative Humidity: 5% to 95%, Non-Condensing

Enclosure Rating: Built to IP40 Specifications, Not Rated for Submersion/Outdoor Use

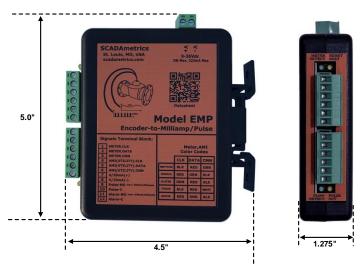
Manufacturing Location: USA

Environmental: ROHS-Compliant, Lead-Free

Meter Interface: AWWA C707-05

Warranty: 2 Years (see www.scadametrics.com for details)

Engineering Dimensions (Inches) -



Meter Terminal Block Hookup -

Term.	Function	Neptune Meter With Standard Cable	Neptune Meter with Nicor Cable	Neptune Meter with Itron ERT Cable
1	Meter Clock	Black	Red	Black
2	Meter Data	Red	Green White	Red
3	Meter Ground	Green	Black	White Shield

AMR/AMI Terminal Block Hookup -

Term.	Function	Neptune MIU with Standard Cable	Neptune (or other) MIU with Nicor Cable	Neptune (or other) MIU with Itron ERT Cable	Sensus, Badger, Mueller, Master-Meter, Metron-Farnier, Zenner, RG3, Kamstrup MIU	Elster AMCO MIU
4	AMI Clock	Black	Red	Black	Red	White Green
5	AMI Data	Red	Green White	Red	Green White	Red
6	AMI Ground	Green	Black	White Shield	Black	Black

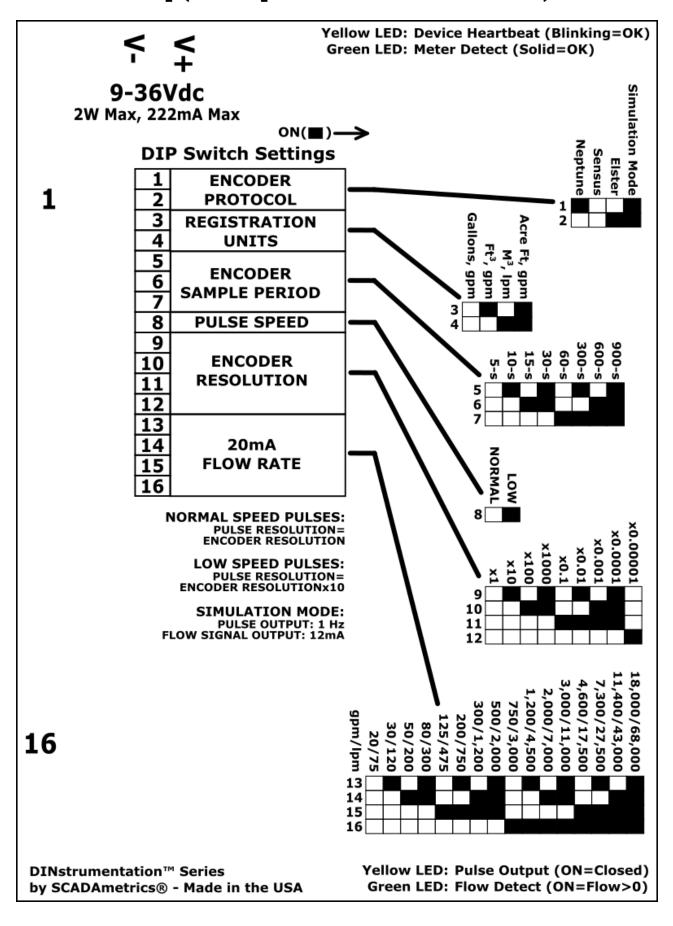
Wiring Notes:

- 1. <u>Meter Terminal Block Hookup</u> (Terminals 1,2,3): Apply the color-coding that pertains to the manufacturer of the Water Meter (or manufacturer of the Specialty Cable, such as Nicor or Itron).
- 2. <u>Utility AMI/AMR</u> Terminal Block Hookup (Terminals 4,5,6): Apply the color-coding that pertains to the manufacturer of the AMI/AMR Endpoint (or manufacturer of the Specialty Cable, such as Nicor or Itron).

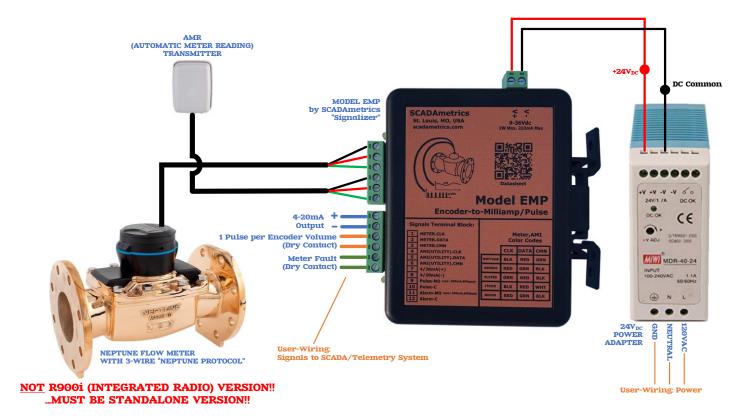
Signal Terminal Block Hookup -

Terminal	Function	Notes
7	4-20mA +	Sottable Dange via DID Switches
8	4-20mA –	Settable Range via DIP Switches
9	Pulse +	Solid-State Dry Contact (N-O)
10	Pulse -	500mA Max, 60V Max
11	Alarm +	Solid-State Dry Contact (N-O)
12	Alarm –	500mA Max, 60V Max

DIP Switch Setup (Also Imprinted on Device Rear Cover) -



QUICK-START GUIDE -



WIRING FOR:
NEPTUNE MACH-10, PROCODER, E-CODER, & WATERFLUX 3070
Fig.1

Initial Setup:

- 1. Attach the water meter's three (3) encoder wires to Signalizer terminals 1,2,3 (see above table for color-coding).
- 2. (If Applicable) Attach the AMR/AMI endpoint's three (3) encoder wires to Signalizer terminals 4,5,6 (see above table for color-coding).
- 3. (If Applicable) Connect the 4-20mA output signal to PLC/Controller: Terminals 7(+) and 8(-). Important Note! The Signalizer™ provides loop power. The user <u>must not</u> add an additional loop power supply, or else damage to the unit will result.
- 4. (If Applicable) Connect the pulse output signal to the PLC/Controller: Terminals 9 and 10. Important Note! The pulse output is a solid-state, dry-contact type. 500mA max, 60V max. Circuit must be current-limited by external means.
- 5. (If Applicable) Connect the alarm output signal to the PLC/Controller: Important Note! The alarm output is a solid-state, dry-contact type. 500mA max, 60V max. Circuit must be current-limited by external means.
- 6. Set the DIP Switches, per the Datasheet.
- 7. Connect DC voltage source to the Signalizer's V+/V- terminals. An isolated $24V_{DC}$ power supply is recommended.

Apply Power, and Observe...

- o The Upper Yellow 'Hearbeat' LED should light up YELLOW, with an OCCASIONAL BLINK, signifying that the Signalizer is working.
- The Upper Green 'Meter OK' LED should light up SOLID GREEN, signifying that the meter has been successfully detected.
- The Lower Yellow LED will follow the Pulse Output (LED ON=Contact Closure).
- The Lower Green LED will light up SOLID GREEN during periods when Positive Flow is Detected.

Recommended DIP Switches 1-12, Settings for MACH-10:

Size	Gallon	Cubic Feet	Cubic Meters	
5/8", 3/4", 1"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	-
5/8,3/4,1	DipSw.2=	DipSw.2=	DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
		2.60	J., po	
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON	
	DipSw.6=	DipSw.6=	DipSw.6=	
	DipSw.7=ON	DipSw.7=ON	DipSw.7=ON	
	DipSw.8=	DipSw.8=	DipSw.8=	
		•	1 -	
	DipSw.9=	DipSw.9=ON	DipSw.9=	
	DipSw.10=	DipSw.10=	DipSw.10=ON	
	DipSw.11=ON	DipSw.11=ON	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	1 Pulse / 0.1 Gal	1 Pulse / 0.01 FT ³	1 Pulse / 0.001 M ³	
	Law Carad Bulanc	Laur Carand Bullan	Law Coard Bullet	
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	(Stellar allies
. =" =" =" ="	1 Pulse / 1 Gal	1 Pulse / 0.1 FT ³	1 Pulse / 0.01 M ³	
1.5", 2", 3", 4"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	C
	DipSw.2= DipSw.3=	DipSw.2= DipSw.3=ON	DipSw.2= DipSw.3=	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				MACH 10
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON	•
	DipSw.6=	DipSw.6=	DipSw.6=	
	DipSw.7=ON	DipSw.7=ON	DipSw.7=ON	
	DipSw.8=	DipSw.8=	DipSw.8=	
	DipSw.9=	DipSw.9=	DipSw.9=ON	
	DipSw.10=	DipSw.10=	DipSw.10=	
	DipSw.11=	DipSw.11=ON	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	
			1	
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	1 Pulse / 1 Gal	1 Pulse / 0.1 FT ³	1 Pulse / 0.01 M ³	
	Law Carad Bulanc	Laur Carand Bullan	Law Carack Bulletin	MACH-10 Reaction
	Low Speed Pulse: 1 Pulse / 10 Gal	Low Speed Pulse: 1 Pulse / 1 FT ³	Low Speed Pulse: 1 Pulse / 0.1 M ³	PIACIT TO RECEION
6// 12//	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	Time
6"-12"	DipSw.2=	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=	I IIIIC
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	pe	J. p 3		In order to preserve the battery life
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON	
	DipSw.6=	DipSw.6=	DipSw.6=	of the MACH-10, the sample period
	DipSw.7=ON	DipSw.7=ON	DipSw.7=ON	of the Signalizer should be set to
	DipSw.8=	DipSw.8=	DipSw.8=	300+ seconds, resulting in a signal
				reaction delay of up to 300s for
	DipSw.9=ON	DipSw.9=	DipSw.9=	
	DipSw.10=	DipSw.10=	DipSw.10=	both the 4-20mA and pulse signals.
	DipSw.11=	DipSw.11=	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	If a more "realtime" signal is
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	required, then a mechanical meter
	1 Pulse / 10 Gal	1 Pulse / 1 FT ³	1 Pulse / 0.1 M ³	
				with PROCODER or E-CODER
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	register should be used.
	1 Pulse / 100 Gal	1 Pulse / 10 FT ³	1 Pulse / 1 M ³	_
16"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	
	DipSw.2=	DipSw.2=	DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	Ding E-ON	Ding., F-ON	Ding F-ON	
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON DipSw.6=	
	DipSw.6= DipSw.7=ON	DipSw.6= DipSw.7=ON	DipSw.6= DipSw.7=ON	
	DipSw.7=UN DipSw.8=	DipSw.7=UN DipSw.8=	DipSw.7=ON DipSw.8=	
	,,,,,,,		- 1001110-	
	DipSw.9=	DipSw.9=ON	DipSw.9=	
	DipSw.10=ON	DipSw.10=	DipSw.10=	
	DipSw.11=	DipSw.11=	DipSw.11=	
	DipSw.12=	DipSw.12=	DipSw.12=	
	1	-		
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	Normal Speed Pulse: 1 Pulse / 100 Gal	Normal Speed Pulse: 1 Pulse / 10 FT ³	Normal Speed Pulse: 1 Pulse / 1 M³	
	1 Pulse / 100 Gal	1 Pulse / 10 FT ³	1 Pulse / 1 M³	

Recommended DIP Switches 1-12 for **ProCoder**, and **E-CODER** Registers:

Sizo	Callon	Cubic Foot	Cubic Motors	
Size	Gallon	Cubic Feet	Cubic Meters	
5/8", 3/4", 1"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	R .
' ' ' '	DipSw.2=	DipSw.2=	DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	•	·		
	DipSw.5=	DipSw.5=	DipSw.5=	
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	
	DipSw.7=	DipSw.7=	DipSw.7=	
	DipSw.8=	DipSw.8=	DipSw.8=	
	DipSw.o-	DipSw.8-	DipSw.o=	
	D: 0 0	p: c c cu	n: a a	
	DipSw.9=	DipSw.9=ON	DipSw.9=	
	DipSw.10=	DipSw.10=	DipSw.10=ON	
	DipSw.11=ON	DipSw.11=ON	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	
			PRO	OCODER
	Normal Speed Pulse:	Normal Speed Pulse:	Normai Speed Puise:	
	1 Pulse / 0.1 Gal	1 Pulse / 0.01 FT ³	1 Pulse / 0.001 M ³	
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	ECODER
	1 Pulse / 1 Gal	1 Pulse / 0.1 FT ³	1 Pulse / 0.01 M ³	ECODER
1.5", 2", 3", 4"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	Special Case! -
1.5 , 2 , 5 , 4	DipSw.2=	DipSw.2=	DipSw.2=	For 1.5" T-10 with E-Coder
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	DipSw.1=ON
	J.p3W.T-	5.p5**	5.p5W.T=0W	DipSw.2=
	DinSw E-	DinSw E-	DinSw E-	
	DipSw.5=	DipSw.5=	DipSw.5=	DipSw.3=
	DipSw.6= ON	DipSw.6=ON	DipSw.6=ON	DipSw.4=ON
	DipSw.7=	DipSw.7=	DipSw.7=	
	DipSw.8=	DipSw.8=	DipSw.8=	DipSw.5=
				DipSw.6=ON
	DipSw.9=	DipSw.9=	DipSw.9=ON	DipSw.7=
	DipSw.10=	DipSw.10=	DipSw.10=	DipSw.8=
	DipSw.11=	DipSw.11=ON	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	DipSw.9=
				DipSw.10=ON
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	DipSw.11=ON
	1 Pulse / 1 Gal	1 Pulse / 0.1 FT ³	1 Pulse / 0.01 M ³	DipSw.12=
	1 Puise / 1 Gai	Truise / U.T.F.I	1 Puise / 0.01 M	Dip3w.12=
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	Normal Speed Pulse:
		1 Pulse / 1 FT ³		1 Pulse / 0.001 M ³
	1 Pulse / 10 Gal	I Puise / I Fi	1 Pulse / 0.1 M ³	1 Puise / 0.001 M
				Laur Carand Bulanc
				Low Speed Pulse:
	D: 0 4 0N	D: 0 4 00	D: 0 4 0N	1 Pulse / 0.01 M ³
6"-12"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	
	DipSw.2=	DipSw.2=	DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	DipSw.5=	DipSw.5=	DipSw.5=	
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	
	DipSw.7=	DipSw.7=	DipSw.7=	
	DipSw.8=	DipSw.8=	DipSw.8=	
	-	·	•	
	DipSw.9=ON	DipSw.9=	DipSw.9=	
	DipSw.10=	DipSw.10=	DipSw.10=	
	DipSw.11=	DipSw.11=	DipSw.11=ON	
	DipSw.12=	DipSw.12=	DipSw.12=	
	<u>-</u>			
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	1 Pulse / 10 Gal	1 Pulse / 1 FT ³	1 Pulse / 0.1 M ³	
	1	1,		
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	
	1 Pulse / 100 Gal	1 Pulse / 10 FT ³	1 Pulse / 1 M ³	
16"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	
10	DipSw.2=	DipSw.2=	DipSw.2=	
1				
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	DinGw E-	DinGu E-	DinGw E-	
	DipSw.5=	DipSw.5=	DipSw.5=	
1	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	
	DipSw.7=	DipSw.7=	DipSw.7=	
1	DipSw.8=	DipSw.8=	DipSw.8=	
	1			
	DipSw.9=	DipSw.9=ON	DipSw.9=	
	DipSw.10=ON	DipSw.10=	DipSw.10=	
	DipSw.11=	DipSw.11=	DipSw.11=	
	DipSw.12=	DipSw.12=	DipSw.12=	
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	1 Pulse / 100 Gal	1 Pulse / 10 FT ³	1 Pulse / 1 M ³	
1		1		
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	
	1 Pulse / 1000 Gal	1 Pulse / 100 FT ³	1 Pulse / 10 M ³	

3070

Recommended DIP Switches 1-12, Settings for WaterFlux 3070:

Size	Gallon	Cubic Feet	Cubic Meters
1"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON
*	DipSw.2=	DipSw.2=	DipSw.2=
	DipSw.3=	DipSw.3=ON	DipSw.3=
	DipSw.4=	DipSw.4=	DipSw.4=ON
		_	_
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON
	DipSw.7=	DipSw.7=	DipSw.7=
	DipSw.8=	DipSw.8=	DipSw.8=
	DipSw.9=	DipSw.9=ON	DipSw.9=
	DipSw.10=	DipSw.10=	DipSw.10=ON
	DipSw.11=ON	DipSw.11=ON	DipSw.11=ON
	DipSw.12=	DipSw.12=	DipSw.12=
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:
	1 Pulse / 0.1 Gal	1 Pulse / 0.01 FT ³	1 Pulse / 0.001 M ³
	Low Speed Bulsey	Low Spood Bulson	Low Spood Bulgo
	Low Speed Pulse: 1 Pulse / 1 Gal	Low Speed Pulse: 1 Pulse / 0.1 FT ³	Low Speed Pulse: 1 Pulse / 0.01 M ³
1 5" 2" 2" 4"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON
1.5", 2", 3", 4"	DipSw.2=	DipSw.2=	DipSw.2=
	DipSw.3=	DipSw.3=ON	DipSw.3=
	DipSw.4=	DipSw.4=	DipSw.4=ON
	-	I	The state of the s
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON
	DipSw.7=	DipSw.7=	DipSw.7=
	DipSw.8=	DipSw.8=	DipSw.8=
	DinGw 0-	DinSw 0-	DinSw 0=ON
	DipSw.9= DipSw.10=	DipSw.9= DipSw.10=	DipSw.9=ON DipSw.10=
	DipSw.11=	DipSw.11=ON	DipSw.11=ON
	DipSw.12=	DipSw.12=	DipSw.12=
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:
	1 Pulse / 1 Gal	1 Pulse / 0.1 FT ³	1 Pulse / 0.01 M ³
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:
	1 Pulse / 10 Gal	1 Pulse / 1 FT ³	1 Pulse / 0.1 M ³
	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=
	DipSw.3=	DipSw.3=ON	DipSw.3=
	DipSw.4=	DipSw.4=	DipSw.4=ON
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON
	DipSw.7=	DipSw.7=	DipSw.7=
	DipSw.8=	DipSw.8=	DipSw.8=
	Dime 0-ON	Ding 0-	DimS 0-
	DipSw.9=ON DipSw.10=	DipSw.9= DipSw.10=	DipSw.9= DipSw.10=
	DipSw.11=	DipSw.11=	DipSw.11=ON
	DipSw.12=	DipSw.12=	DipSw.12=
	• '	•	-
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:
	1 Pulse / 10 Gal	1 Pulse / 1 FT ³	1 Pulse / 0.1 M ³
	Law Casad D. I	Laur Canad R. I	Laur Canad R. I
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:
16"-24"	1 Pulse / 100 Gal DipSw.1=ON	1 Pulse / 10 FT ³ DipSw.1=ON	DipSw.1=ON
10 -24	DipSw.2=	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=
	DipSw.3=	DipSw.3=ON	DipSw.3=
	DipSw.4=	DipSw.4=	DipSw.4=ON
	•	•	-
	DipSw.5=ON	DipSw.5=ON	DipSw.5=ON
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON
	DipSw.7=	DipSw.7=	DipSw.7=
1	DipSw.8=	DipSw.8=	DipSw.8=
	DipSw.9=	DipSw.9=ON	DipSw.9=
	DipSw.9= DipSw.10=ON	DipSw.10=	DipSw.10=
	DipSw.11=	DipSw.11=	DipSw.11=
	DipSw.12=	DipSw.12=	DipSw.12=
	• '	•	• -
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:
	1 Pulse / 100 Gal	1 Pulse / 10 FT ³	1 Pulse / 1 M ³
		i l	
	Low Speed Pulse: 1 Pulse / 1000 Gal	Low Speed Pulse: 1 Pulse / 100 FT ³	Low Speed Pulse: 1 Pulse / 10 M ³

Recommended DIP Switches 1-12 for ProRead (AUTO H65N) Registers:

Size	Gallon	Cubic Feet	Cubic Meters	
5/8", 3/4", 1"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	
3/0 /3/4 /1	DipSw.2=	DipSw.2=	DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	DipSw.5=	DipSw.5=	DipSw.5=	
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	
	DipSw.7=	DipSw.7=	DipSw.7=	
	DipSw.8=	DipSw.8=	DipSw.8=	
			• • • • • • • • • • • • • • • • • • • •	
	DipSw.9=ON	DipSw.9=	DipSw.9=	1 2
	DipSw.10=	DipSw.10=	DipSw.10=	7 3
	DipSw.11= DipSw.12=	DipSw.11= DipSw.12=	DipSw.11=ON DipSw.12=	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	DipSw.12=	DipSw.12=	DipSw.12=	1108
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	
	1 Pulse / 10 Gal	1 Pulse / 1 FT ³	1 Pulse / 0.1 M ³	
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	PROPERT
4 5" 2" 2" 4"	1 Pulse / 100 Gal DipSw.1=ON	1 Pulse / 10 FT ³ DipSw.1=ON	1 Pulse / 1 M ³ DipSw.1=ON	PROREAD
1.5", 2", 3", 4"	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=	DipSw.1=ON DipSw.2=	
	DipSw.3=	DipSw.3=ON	DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
			• • • • • • • • • • • • • • • • • • • •	
	DipSw.5=	DipSw.5=	DipSw.5=	4-20mA
	DipSw.6= ON	DipSw.6=ON	DipSw.6=ON	
	DipSw.7=	DipSw.7= DipSw.8=	DipSw.7=	Not Available
	DipSw.8=	=ס.weqוט=	DipSw.8=	
	DipSw.9=	DipSw.9=ON	DipSw.9=	
	DipSw.10=ON	DipSw.10=	DipSw.10=	ProRead registers feature relatively
	DipSw.11=	DipSw.11=	DipSw.11=	coarse, 6-digit totalizer resolution,
	DipSw.12=	DipSw.12=	DipSw.12=	as opposed to fine 8-digit totalizer
	Name of Control Profession	Name of Control Bullion	Name of Green d Bodger	resolution with the ProCoder/
	Normal Speed Pulse: 1 Pulse / 100 Gal	Normal Speed Pulse: 1 Pulse / 10 FT ³	Normal Speed Pulse: 1 Pulse / 1 M ³	ECoder, and therefore do NOT
	Truise / 100 Gai	Truise / 1011	I ruise / I i-i	support the Signalizer's 4-20
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	
	1 Pulse / 1000 Gal	1 Pulse / 100 FT ³	1 Pulse / 10 M ³	milliamp output function.
6"-12"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	
	DipSw.2= DipSw.3=	DipSw.2= DipSw.3=ON	DipSw.2= DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
				Laura Dana daddan
	DipSw.5=	DipSw.5=	DipSw.5=	Low-Resolution
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	Dalas
	DipSw.7=	DipSw.7=	DipSw.7=	Pulse
	DipSw.8=	DipSw.8=	DipSw.8=	
	DipSw.9=ON	DipSw.9=	DipSw.9=ON	The least significant (6th) digit of
	DipSw.10=ON	DipSw.10=ON	DipSw.10=	
	DipSw.11=	DipSw.11=	DipSw.11=	the ProRead register only transmits
	DipSw.12=	DipSw.12=	DipSw.12=	as a ZERO (0) or FIVE (5), and
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	Therefore, the pulse output of the
	1 Pulse / 1000 Gal	1 Pulse / 100 FT ³	1 Pulse / 10 M ³	Signalizer (when connected to
	,		,	ProRead registers) will always be
	Low Speed Pulse:	Low Speed Pulse:	Low Speed Pulse:	transmitted in groups of five
	1 Pulse / 10,000 Gal	1 Pulse / 1000 FT ³	1 Pulse / 100 M ³	pulses.
16"	DipSw.1=ON	DipSw.1=ON	DipSw.1=ON	F-11-55-
	DipSw.2= DipSw.3=	DipSw.2= DipSw.3=ON	DipSw.2= DipSw.3=	
	DipSw.4=	DipSw.4=	DipSw.4=ON	
	DipSw.5=	DipSw.5=	DipSw.5=	
	DipSw.6=ON	DipSw.6=ON	DipSw.6=ON	Field-Upgradeable
	DipSw.7=	DipSw.7=	DipSw.7=	r ieiu-opgraueable
	DipSw.8=	DipSw.8=	DipSw.8=	
	DipSw.9= SPECIAL-CALL	DipSw.9=ON	DipSw.9=	A ProRead Register may be easily
	DipSw.10=SPECIAL-CALL	DipSw.10=ON	DipSw.10=ON	field-upgraded to a ProCoder or
	DipSw.11=SPECIAL-CALL	DipSw.11=	DipSw.11=	ECoder Register. Please contact
İ		DipSw.12=	DipSw.12=	SCADAmetrics or your local
	DipSw.12=SPECIAL-CALL	•		
		Normal Cased Bullet	Normal Speed Bull-	
	Normal Speed Pulse:	Normal Speed Pulse:	Normal Speed Pulse:	Neptune representative.
		Normal Speed Pulse: 1 Pulse / 1000 FT ³	Normal Speed Pulse: 1 Pulse / 100 M³	
	Normal Speed Pulse:			

Recommended DIP Switches 13-16 for MACH-10, ProCoder, E-CODER, and WaterFlux 3070 Registers:

The Following *Suggested* Flow Span Settings, and May Need To Be Adjusted Based on Anticipated Max Flow Conditions.

Size	Gallon , Cubic Feet , Cubic Meters
5/8" MACH-10, T10	DipSw.13=
	DipSw.14=
20 gpm	DipSw.15=
75 lpm	DipSw.16=
3/4" MACH-10, T10	DipSw.13=ON
,	DipSw.14=
30 gpm	DipSw.15=
120 lpm	DipSw.16=
1" MACH-10, T10	DipSw.13=
,	DipSw.14=ON
50 gpm	DipSw.15=
200 lpm	DipSw.16=
1.5" MACH-10, T10	DipSw.13=
	DipSw.14=
125 gpm	DipSw.15=ON
475 lpm	DipSw.16=
2" MACH-10, T10, 1.5-2" HPT	DipSw.13=ON
	DipSw.14=
200 gpm	DipSw.15=ON
750 lpm	DipSw.16=
3" MACH-10, HPT	DipSw.13=ON
5 FIAGIT 10, III I	DipSw.14=ON
500 gpm	DipSw.15=ON
2000 lpm	DipSw.16=
4" MACH-10, HPT	DipSw.13=ON
- FIAGII 10/ III I	DipSw.14=
1200 gpm	DipSw.15=
4500 lpm	DipSw.16=ON
6" MACH-10, HPT	DipSw.13=ON
o madii 10, m i	DipSw.14=ON
3000 gpm	DipSw.15=
11000 lpm	DipSw.16=ON
8" MACH-10, HPT	DipSw.13=
O PIACIT-10, HE I	DipSw.14=
4600 gpm	DipSw.15=ON
17500 lpm	DipSw.15=ON
10" MACH-10, HPT	DipSw.13=ON
TO PIACITIO, IIF I	DipSw.14=
7300 gpm	DipSw.14= DipSw.15=ON
27500 lpm	DipSw.15=ON DipSw.16=ON
12" MACH-10, HPT	DipSw.13=
12 MACH-10, HP1	DipSw.13= DipSw.14=ON
11/00 apm	•
11400 gpm	DipSw.15=ON
43000 lpm	DipSw.16=ON
16" MACH-10, HPT	DipSw.13=ON
19000	DipSw.14=ON
18000 gpm	DipSw.15=ON
68000 lpm	DipSw.16=ON

NON-STANDARD SAMPLING TIMES -

- FAST-REACTION BATCHING METERS
- (a) Fast-Reaction Batching Control Meters require ultra-fast reaction times (1, 2, or 3 seconds). Please ensure that the connected encoder-type flow meter can tolerate ultra-short sample periods (i.e. battery issues).

When the Internal Jumper⁽¹⁾ is installed onto the Signalizer Factory Header as illustrated below, then the interrogation sample timings are activated accordingly:

Signalizer Sample Period Setting (sec) DIP Switch Settings	Non-Standard Sample Period (sec)	
5	1	O C
10	2	Jse for Fast Batch Control
15	3	<u> </u>
30	32	
60	64	Alta Sa Pe
300	128 (OK for MACH-10)	Iternate Sample Periods
600	640 (OK for MACH-10)	ate le Is
900	960 (OK for MACH-10)	

(1) Requires Setting of "Non-Standard Sampling Mode" Activation Jumper.
User Must Open Device Case, and Set Shunt Jumper on Circuit Board Utility Header:

