MegaTron
Controller
Supplemental

LonWorks
Communications
Manual

Advantage Controls

LonWorks
Communications Manual
Table of Contents

I.   LonWorks Introduction

The LonWorks feature enables the MegaTron to be connected to a LonWorks network and communicate with other LonWorks enabled devices. The MegaTron uses a Free Topology, twisted pair connection for the physical connection to a LonWorks network.

II.   LonWorks Overview

The MegaTron's external interface definition can be uploaded from the device or from a XIF file. The Neuron ID can be found on the main Network menu on the MegaTron. A service pin event can be triggered from the main Network menu of the MegaTron using the SRVC button or the event can be trigger by pressing the S1 switch on the MegaTron LonWorks interface board.

The MegaTron supports "Winking" via the LonWorks network. When a winking event is triggered, the MegaTron will replace the connection status on the main run screen with the following symbol "[ ]". The symbol will remain for 5 seconds and then the current connection status will be redisplayed.

The LED D6 on the MegaTron LonWorks interface board can be used to determine the commissioned state of the device. If the LED is blinking at 500ms then the device is in a "Decommissioned" state. If the LED is off then the device is on a "Commissioned" state.

* For more information about LonWorks please visit www.lonworks.com.

III. LonWorks Wiring
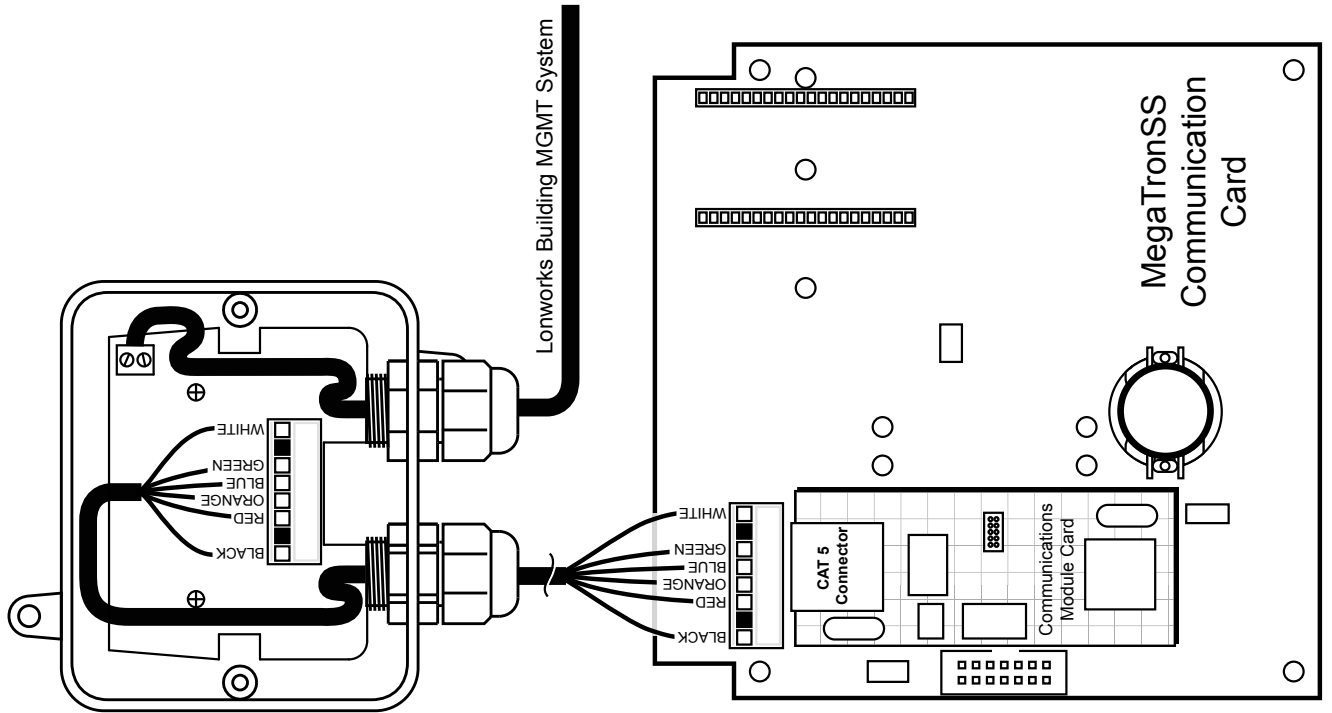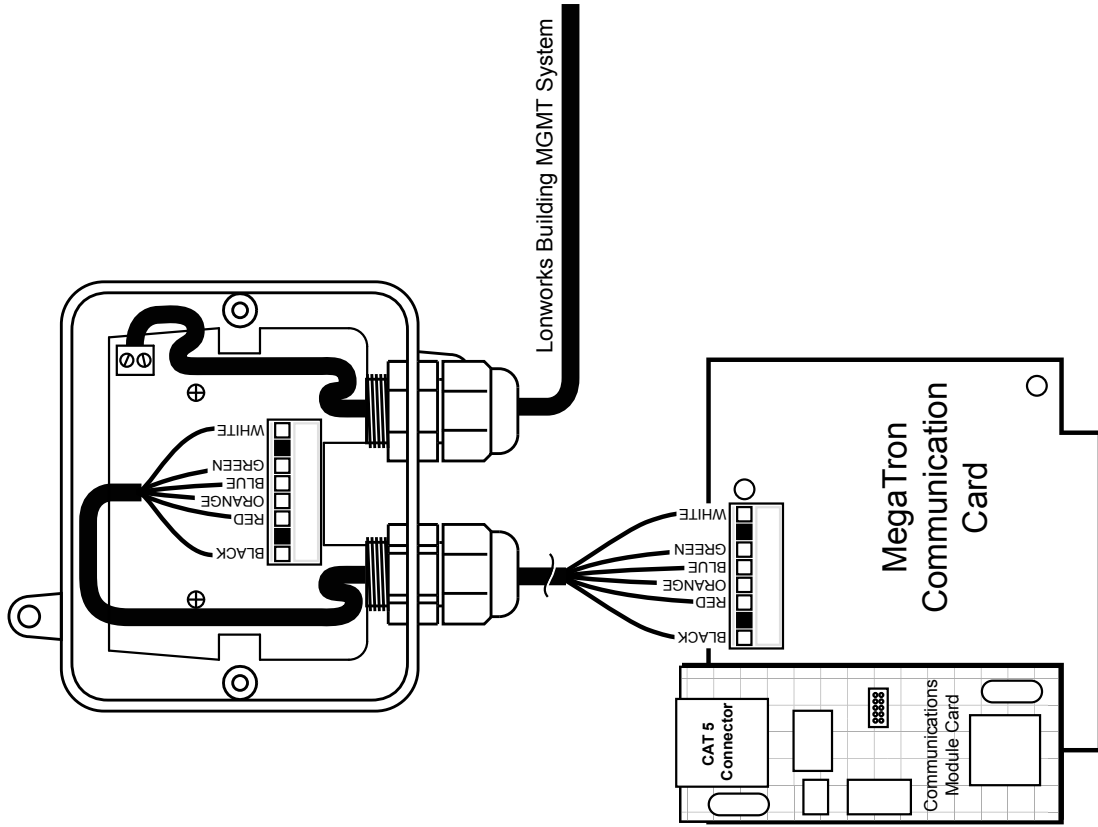
IV.   LonWorks Data Dictionary - JA.12.01

Configuration Data

Functional Block	Functional Block	Functional Profile Template	Support Variables	Notes
fbNode	Node	SFPTnodeObject	nviRequest (SNVT_obj_request)	
			nvoStatus (SNVT_obj_status)	
			nciLocation (SCPTlocation)	
			nvoTimeStamp (SVNT_time_stamp)	Controller Date/Time
fbCond_1	Conductivity_1	SFPTopenLoopSensor	nvoCondValue_1 (SNVT_count_f)	System #1 - Conductivity
			nvoCondSetpPt1_1 (SNVT_count_f)	
			nvoCondSetpPt2_1 (SNVT_count_f)	
			nvoCondLowAlarm_1 (SNVT_count_f)	
			nvoCondHighAlarm_1 (SNVT_count_f)	
fbMCond_1	M_Conductivity_1	SFPTopenLoopSensor	nvoMcndValue_1 (SNVT_count_f)	System #1 - M. Conductivity
			nvoMcndSetpPt_1 (SNVT_count_f)	
			nvoMcndLowAlarm_1 (SNVT_count_f)	
			nvoMcndHighAlarm_1 (SNVT_count_f)	
fbMcycles_1	M_Cycles_1	SFPTopenLoopSensor	nvoMcyclesValue_1 (SNVT_count_f)	System #1 - M. Cycles
fbPh_1	pH_1	SFPTopenLoopSensor	nvoPhValue_1 (SNVT_count_f)	System #1 - pH
			nvoPhSetpPt1_1 (SNVT_count_f)	
			nvoPhSetpPt2_1 (SNVT_count_f)	
			nvoPhLowAlarm_1 (SNVT_count_f)	
			nvoPhHighAlarm_1 (SNVT_count_f)	
fbOrp_1	ORP_1	SFPTopenLoopSensor	nvoOrpValue_1 (SNVT_volt_f)	System #1 - ORP
			nvoOrpSetpPt1_1 (SNVT_volt_f)	
			nvoOrpSetpPt2_1 (SNVT_volt_f)	
			nvoOrpLowAlarm_1 (SNVT_volt_f)	
			nvoOrpHighAlarm_1 (SNVT_volt_f)	
fbSTemp_1	S_Temp_1	SFPTopenLoopSensor	nvoSTmpValue_1 (SNVT_temp_p)	System #1 - S. Temperature
			nvoSTmpSetpPt_1 (SNVT_temp_p)	
			nvoSTmpLowAlarm_1 (SNVT_temp_p)	
			nvoSTmpHighAlarm_1 (SNVT_temp_p)	
fbMTemp_1	M_Temp_1	SFPTopenLoopSensor	nvoMTmpValue_1 (SNVT_temp_p)	System #1 - M. Temperature
			nvoMTmpSetpPt_1 (SNVT_temp_p)	
			nvoMTmpLowAlarm_1 (SNVT_temp_p)	
			nvoMTmpHighAlarm_1 (SNVT_temp_p)	
fbDTemp_1	D_Temp_1	SFPTopenLoopSensor	nvoDTmpValue_1 (SNVT_temp_p)	System #1 - D. Temperature
			nvoDTmpSetpPt_1 (SNVT_temp_p)	
			nvoDTmpLowAlarm_1 (SNVT_temp_p)	
			nvoDTmpHighAlarm_1 (SNVT_temp_p)	
fbFlowState	FlowState	SFPTopenLoopSensor	nvoFlowStaValue (SNVT_state)	bit0 - System #1 -Flow Switch

fbWmtr1_1	W_Mtr1_1	SFPTopenLoopSensor	nvoWmtr1Value_1 (SNVT_count_f)	System #1 - Water Meter #1 (scale: *1000)
fbWmtr2_1	W_Mtr2_1	SFPTopenLoopSensor	nvoWmtr2Value_1 (SNVT_count_f)	System #1 - Water Meter #2 (scale: *1000)
fbMaOut_1	mA_Out_1	SFPTopenLoopSensor	nvoMaOutValue_1 (SNVT_count_f)	mA Output #1
fbMaOut_2	mA_Out_2	SFPTopenLoopSensor	nvoMaOutValue_2 (SNVT_count_f)	mA Output #2
fbMaOut_3	mA_Out_3	SFPTopenLoopSensor	nvoMaOutValue_3 (SNVT_count_f)	mA Output #3
fbMaOut_4	mA_Out_4	SFPTopenLoopSensor	nvoMaOutValue_4 (SNVT_count_f)	mA Output #4
fbMaOut_5	mA_Out_5	SFPTopenLoopSensor	nvoMaOutValue_5 (SNVT_count_f)	mA Output #5
fbMaOut_6	mA_Out_6	SFPTopenLoopSensor	nvoMaOutValue_6 (SNVT_count_f)	mA Output #6
fbRly_1	Relay_1	SFPTopenLoopSensor	nvoRlyValue_1 (SNVT_switch)	Relay #1 (Value: 0 = Auto, 100 = Forced)
fbRly_2	Relay_2	SFPTopenLoopSensor	nvoRlyValue_2 (SNVT_switch)	Relay #2 (Value: 0 = Auto, 100 = Forced)
fbRly_3	Relay_3	SFPTopenLoopSensor	nvoRlyValue_3 (SNVT_switch)	Relay #3 (Value: 0 = Auto, 100 = Forced)
fbRly_4	Relay_4	SFPTopenLoopSensor	nvoRlyValue_4 (SNVT_switch)	Relay #4 (Value: 0 = Auto, 100 = Forced)
fbRly_5	Relay_5	SFPTopenLoopSensor	nvoRlyValue_5 (SNVT_switch)	Relay #5 (Value: 0 = Auto, 100 = Forced)
fbAlarm_1	Alarm_1	SFPTopenLoopSensor	nvoAlarmValue_1 (SNVT_state_64)	System #1 - Alarms #1 (see Alarm Table)
fbAlarm_2	Alarm_2	SFPTopenLoopSensor	nvoAlarmValue_2 (SNVT_state_64)	System #1 - Alarms #2 (see Alarm Table)
fbAlarm_3	Alarm_3	SFPTopenLoopSensor	nvoAlarmValue_3 (SNVT_state_64)	For Future Use
fbAlarm_4	Alarm_4	SFPTopenLoopSensor	nvoAlarmValue_4 (SNVT_state_64)	For Future Use
fbAlarm_5	Alarm_5	SFPTopenLoopSensor	nvoAlarmValue_5 (SNVT_state_64)	For Future Use
fbAlarm_6	Alarm_6	SFPTopenLoopSensor	nvoAlarmValue_6 (SNVT_state_64)	For Future Use
fbAlarm_7	Alarm_7	SFPTopenLoopSensor	nvoAlarmValue_7 (SNVT_state_64)	For Future Use
fbAlarm_8	Alarm_8	SFPTopenLoopSensor	nvoAlarmValue_8 (SNVT_state_64)	For Future Use
fbAlarm_9	Alarm_9	SFPTopenLoopSensor	nvoAlarmValue_9 (SNVT_state_64)	Miscellanous - Alarms #1 (see Alarm Table)
fbAlarm_10	Alarm_10	SFPTopenLoopSensor	nvoAlarmValue_10 (SNVT_state_64)	For Future Use
fbMaIn_1	mA_In_1	SFPTopenLoopSensor	nvoMaInValue_1 (SNVT_count_f)	mA Input #1
fbMaIn_2	mA_In_2	SFPTopenLoopSensor	nvoMaInValue_2 (SNVT_count_f)	mA Input #2
fbMaIn_3	mA_In_3	SFPTopenLoopSensor	nvoMaInValue_3 (SNVT_count_f)	mA Input #3
fbMaIn_4	mA_In_4	SFPTopenLoopSensor	nvoMaInValue_4 (SNVT_count_f)	mA Input #4
fbMaIn_5	mA_In_5	SFPTopenLoopSensor	nvoMaInValue_5 (SNVT_count_f)	mA Input #5
fbMaIn_6	mA_In_6	SFPTopenLoopSensor	nvoMaInValue_6 (SNVT_count_f)	mA Input #6
fbMaIn_7	mA_In_7	SFPTopenLoopSensor	nvoMaInValue_7 (SNVT_count_f)	mA Input #7
fbMaIn_8	mA_In_8	SFPTopenLoopSensor	nvoMaInValue_8 (SNVT_count_f)	mA Input #8
fbFmtr_1	FMtr_1	SFPTopenLoopSensor	nvoFmtrValue_1 (SNVT_count_f)	Flow Meter #1 - Total
fbFmtr_2	FMtr_2	SFPTopenLoopSensor	nvoFmtrValue_2 (SNVT_count_f)	Flow Meter #2 - Total
fbFmtr_3	FMtr_3	SFPTopenLoopSensor	nvoFmtrValue_3 (SNVT_count_f)	Flow Meter #3 - Total
fbFmtr_4	FMtr_4	SFPTopenLoopSensor	nvoFmtrValue_4 (SNVT_count_f)	Flow Meter #4 - Total
fbFmtr_5	FMtr_5	SFPTopenLoopSensor	nvoFmtrValue_5 (SNVT_count_f)	Flow Meter #5 - Total
fbFmtr_6	FMtr_6	SFPTopenLoopSensor	nvoFmtrValue_6 (SNVT_count_f)	Flow Meter #6 - Total

fbFmtr_7	FMtr_7	SFPTopenLoopSensor	nvoFmtrValue_7 (SNVT_count_f)	Flow Meter #7 - Total
fbFmtr_8	FMtr_8	SFPTopenLoopSensor	nvoFmtrValue_8 (SNVT_count_f)	Flow Meter #8 - Total
fbFmtr_9	FMtr_9	SFPTopenLoopSensor	nvoFmtrValue_9 (SNVT_count_f)	Flow Meter #9 - Total
fbFmtr_10	FMtr_10	SFPTopenLoopSensor	nvoFmtrValue_10 (SNVT_count_f)	Flow Meter #10 - Total
fbFmtrFlow_1	FMtrFlow_1	SFPTopenLoopSensor	nvoFmtrFlow_1 (SNVT_count_f)	Flow Meter #1 - Flow Rate (per Min)
fbFmtrFlow_2	FMtrFlow_2	SFPTopenLoopSensor	nvoFmtrFlow_2 (SNVT_count_f)	Flow Meter #2 - Flow Rate (per Min)
fbFmtrFlow_3	FMtrFlow_3	SFPTopenLoopSensor	nvoFmtrFlow_3 (SNVT_count_f)	Flow Meter #3 - Flow Rate (per Min)
fbFmtrFlow_4	FMtrFlow_4	SFPTopenLoopSensor	nvoFmtrFlow_4 (SNVT_count_f)	Flow Meter #4 - Flow Rate (per Min)
fbFmtrFlow_5	FMtrFlow_5	SFPTopenLoopSensor	nvoFmtrFlow_5 (SNVT_count_f)	Flow Meter #5 - Flow Rate (per Min)
fbFmtrFlow_6	FMtrFlow_6	SFPTopenLoopSensor	nvoFmtrFlow_6 (SNVT_count_f)	Flow Meter #6 - Flow Rate (per Min)
fbFmtrFlow_7	FMtrFlow_7	SFPTopenLoopSensor	nvoFmtrFlow_7 (SNVT_count_f)	Flow Meter #7 - Flow Rate (per Min)
fbFmtrFlow_8	FMtrFlow_8	SFPTopenLoopSensor	nvoFmtrFlow_8 (SNVT_count_f)	Flow Meter #8 - Flow Rate (per Min)
fbFmtrFlow_9	FMtrFlow_9	SFPTopenLoopSensor	nvoFmtrFlow_9 (SNVT_count_f)	Flow Meter #9 - Flow Rate (per Min)
fbFmtrFlow_10	FMtrFlow_10	SFPTopenLoopSensor	nvoFmtrFlow_10 (SNVT_count_f)	Flow Meter #10 - Flow Rate (per Min)

Alarm Settings

Alarm	Functional Block	Bit
SYS1 COND	fbAlarm_1	0
SYS1 pH	fbAlarm_1	1
SYS1 ORP	fbAlarm_1	2
SYS1 TEMP 1	fbAlarm_1	3
SYS1 TEMP 2	fbAlarm_1	4
SYS1 DELTA TEMP	fbAlarm_1	5
SYS1 TIMER1	fbAlarm_1	6
SYS1 TIMER2	fbAlarm_1	7
SYS1 TIMER3	fbAlarm_1	8
SYS1 TIMER4	fbAlarm_1	9
SYS1 TIMER5	fbAlarm_1	10
SYS1 ALL ALARMS	fbAlarm_1	11
SYS1 HI COND	fbAlarm_1	12
SYS1 LO COND	fbAlarm_1	13
SYS1 COND LIMIT	fbAlarm_1	14
SYS1 HI pH	fbAlarm_1	15
SYS1 LO pH	fbAlarm_1	16
SYS1 ph LIMIT	fbAlarm_1	17
SYS1 HI ORP	fbAlarm_1	18
SYS1 LO ORP	fbAlarm_1	19
SYS1 ORP LIMIT	fbAlarm_1	20
SYS1 HI TEMP 1	fbAlarm_1	21
SYS1 LO TEMP 1	fbAlarm_1	22
SYS1 HI TEMP 2	fbAlarm_1	23
SYS1 LO TEMP 2	fbAlarm_1	24
SYS1 HI DELTA TEMP	fbAlarm_1	25
SYS1 LO DELTA TEMP	fbAlarm_1	26
SYS1 NO FLOW	fbAlarm_1	27
SYS1 DIGITAL INPUT 1	fbAlarm_1	28
SYS1 DIGITAL INPUT 2	fbAlarm_1	29
SYS1 DIGITAL INPUT 3	fbAlarm_1	30
SYS1 DIGITAL INPUT 4	fbAlarm_1	31
SYS1 DIGITAL INPUT 5	fbAlarm_1	32
SYS1 MCND	fbAlarm_1	33
SYS1 HI MCND	fbAlarm_1	34
SYS1 LO MCND	fbAlarm_1	35
SYS1 MCND LIMIT	fbAlarm_1	36
SYS1 NOTE 1 HI	fbAlarm_1	37
SYS1 NOTE 2 HI	fbAlarm_1	38
SYS1 NOTE 3 HI	fbAlarm_1	39
SYS1 NOTE 4 HI	fbAlarm_1	40
SYS1 NOTE 5 HI	fbAlarm_1	41
SYS1 NOTE 6 HI	fbAlarm_1	42
SYS1 NOTE 7 HI	fbAlarm_1	43
SYS1 NOTE 8 HI	fbAlarm_1	44
SYS1 NOTE 9 HI	fbAlarm_1	45
SYS1 NOTE 10 HI	fbAlarm_1	46
SYS1 NOTE 1 LO	fbAlarm_1	47
SYS1 NOTE 2 LO	fbAlarm_1	48
SYS1 NOTE 3 LO	fbAlarm_1	49
SYS1 NOTE 4 LO	fbAlarm_1	50
SYS1 NOTE 5 LO	fbAlarm_1	51
SYS1 NOTE 6 LO	fbAlarm_1	52
SYS1 NOTE 7 LO	fbAlarm_1	53
SYS1 NOTE 8 LO	fbAlarm_1	54
SYS1 NOTE 9 LO	fbAlarm_1	55
SYS1 NOTE 10 LO	fbAlarm_1	56
SYS1 NOTE 1 TIME	fbAlarm_1	57
SYS1 NOTE 2 TIME	fbAlarm_1	58
SYS1 NOTE 3 TIME	fbAlarm_1	59
SYS1 NOTE 4 TIME	fbAlarm_1	60
SYS1 NOTE 5 TIME	fbAlarm_1	61
SYS1 NOTE 6 TIME	fbAlarm_1	62
SYS1 NOTE 7 TIME	fbAlarm_1	63
SYS1 NOTE 8 TIME	fbAlarm_2	0
SYS1 NOTE 9 TIME	fbAlarm_2	1
SYS1 NOTE 10 TIME	fbAlarm_2	2
SYS1 pH2	fbAlarm_2	3
SYS1 ORP2	fbAlarm_2	4
MA IN1	fbAlarm_9	0
MA IN1 HIGH	fbAlarm_9	1
MA IN1 LOW	fbAlarm_9	2
MA IN2	fbAlarm_9	3
MA IN2 HIGH	fbAlarm_9	4
MA IN2 LOW	fbAlarm_9	5
MA IN3	fbAlarm_9	6
MA IN3 HIGH	fbAlarm_9	7
MA IN3 LOW	fbAlarm_9	8
MA IN4	fbAlarm_9	9

MA IN4 HIGH	fbAlarm_9	10
MA IN4 LOW	fbAlarm_9	11
MA IN5	fbAlarm_9	12
MA IN5 HIGH	fbAlarm_9	13
MA IN5 LOW	fbAlarm_9	14
MA IN6	fbAlarm_9	15
MA IN6 HIGH	fbAlarm_9	16
MA IN6 LOW	fbAlarm_9	17
MA IN7	fbAlarm_9	18
MA IN7 HIGH	fbAlarm_9	19
MA IN7 LOW	fbAlarm_9	20
MA IN8	fbAlarm_9	21
MA IN8 HIGH	fbAlarm_9	22
MA IN8 LOW	fbAlarm_9	23