

HM-1756 SGI LDT MODULE DATA TAGS

Rev. 1.1.0

INPUT IMAGE DATA TAGS

Data Tags Local:x.I	Data Type	Bit	Description
.Data[0]	INT	-	Update Counter Module's internal communication update counter to verify if recent data has been updated on the Input Image Tags
.Data[1]	INT	-	ASIC Fault Code
.Data[2]	INT	-	Ch1 Peak value in Ton (in PEAK or MONITOR Mode) Ch1 Calibrate number (in CALIBRATE Mode)
.Data[3]	INT	-	Ch2 Peak value in Ton (in PEAK or MONITOR Mode) Ch2 Calibrate number (in CALIBRATE Mode)
.Data[4]	INT	-	Ch1 Trend value in Percent or Ton
.Data[5]	INT	-	Ch2 Trend value in Percent or Ton
.Data[6]	INT	-	Ch1 Sample value in Ton
.Data[7]	INT	-	Ch2 Sample value in Ton
.Data[8]	INT	-	Ch1 Reverse Load in Ton
.Data[9]	INT	-	Ch2 Reverse Load in Ton
.Data[10]	Bit	0 1 2 3 4 5 6 7 8 9 10	Ch1 High Trend Alarm Indication Bit Ch1 Low Trend Alarm Indication Bit - - Ch1 Capacity Alarm Indication Bit - - - Ch1 High Tracking Alarm Indication Bit Ch1 Low Tracking Alarm Indication Bit -
.Data[11]	Bit	0 1 2 3 4 5 6 7 -	Module In Calibrate Mode Indication Bit Module In Peak Mode Indication Bit Module In Monitor Mode Indication Bit Sampling in progress Indication Bit Sample Ready Indication Bit (stay On until the mode changes) Alarm Rest in progress bit Ready Bit
.Data[12]	INT	-	
.Data[13]	INT	-	Current LDT Raw Count Value (in Calibrate mode only)
.Data[14]	INT	-	Index 1 – Current or Sample Wave Data
.Data[15]	INT	-	Index 2 – Current or Sample Wave Data
.Data[x]	INT	-	Index y – Current or Sample Wave Data
.Data[236]	INT	-	Index 223 - Current or Sample Wave Data
.Data[237]	INT	-	Index 224 - Current or Sample Wave Data
.Data[238]	INT	-	Wave data Type Indication 101 = Ch1 Current Wave 102 = LDT Current Wave 201 = Ch1 Sample Wave * After Requesting wave data transfer, verify the number to make sure if it matches with your requested type before using Data[14] through Data[245].
.Data[239]	INT	-	Update Count Wave data update counter to verify if the requested wave data has been updated on the Input Image Tags
.Data[240]	INT	-	High AD value
.Data[241]	INT	-	Peak value in Ton
.Data[242]	INT	-	Low AD value
.Data[243]	INT	-	Wave data error check sum
.Data[244]	INT	-	Tracking Alarm Position in LDT Raw Count value for alarm
.Data[245]	INT	-	Tracking Alarm Tonnage value at the alarm position
.Data[246]	INT	-	Cycle Counter
.Data[247]			

OUTPUT IMAGE TAGS

Data Tags Local:x.O	Data Type	Bit	Description
.Data[0]	Bit	0	-
	Bit	1	Alarm Reset (Toggle bit for min 100msec during high)
	Bit	2	-
	Bit	3	-
	Bit	4	-
	Bit	5	-
	Bit	6	-
	Bit	7	-
	Bit	8	Set Calibrate mode
	Bit	9	Set Setup mode
	Bit	10	Set Monitor Mode
	Bit	11	-
	Bit	12	-
	Bit	13	-
	Bit	14	-
	Bit	15	-
.Data[1]	INT	-	*Stored Sample Data and Recipe Control Bits
	Bit	0	-
	Bit	1	Store Sample Wave Tag to Sample Wave Output Image Tag
	Bit	2	-
	Bit	3	-
	Bit	4	Download Selected Job Recipe to current Job
	Bit	5	Save current Job to Selected Job Recipe
	Bit	6	-
.Data[2]	INT	-	*Selected Job Recipe No
.Data[3]	INT	-	Set Wave xfer Request
		-	101 = Ch1 Current Wave 102 = LDT Current Wave
		-	201 = Ch1 Sample Wave
.Data[4]	INT	-	Set Scale Value
.Data[5]	INT	-	Set Look Window Start Position for Signature in LDT Raw Count (Set in Calibrate mode). This value must be larger than LDT trigger position
.Data[6]	INT	-	Set Look Window Time for Signature in msec (Set n Calibrate mode)
.Data[7]	INT	-	Set Ch1 High Capacity Alarm Value (Set in Calibrate mode)
.Data[8]	INT	-	Set LDT trigger position for the module to start to monitor sensor's input in raw count value (Capacity alarm will be monitored during this area)
.Data[9]	Bit	0	-
	Bit	1	Tracking Alarm On/Off
	Bit	2	Trend Alarm On/Off
	Bit	3	-
	Bit	4	Alarm Value type (1 = Tolerance in Ton, 0 = Tolerance in Percent)
	Bit	5	AMPTRACK On/Off
	Bit	6	-
	Bit	7	-
	H Byte	-	-
.Data[10]	L Byte	-	Set Sampling Cycle Count (0, 2, 4, 8, and 16)
	H Byte	-	0 = no sampling. Use sample data from Output memory Data[17] - Data[240]
.Data[11]	L Byte	-	Set Low Alarm Inhibit Count
	H Byte	-	-
.Data[12]	INT	-	Alarm Monitoring Start Time in msec (Tracking alarm only)
.Data[13]	INT	-	Alarm Monitoring Stop Time in msec (Tracking alarm only)
.Data[14]	L Byte	-	Set Ch1 Low Tolerance value
	H Byte	-	Set Ch1 High Tolerance value
.Data[15]	L Byte	-	Set Ch2 Low Tolerance value
	H Byte	-	Set Ch2 High Tolerance value
.Data[16]	L Byte	-	Set Thresh Hold for Tracking Alarm (In Percent)
	H Byte	-	-
.Data[17]	INT	-	Sample Wave Input Value for 1 st Point in Tonnage Raw Count (in Calibrate mode)
.Data[18]	INT	-	Sample Wave Input Value for 2 nd Point in Tonnage Raw Count (in Calibrate mode)
.Data[x]	INT	-	Sample Wave Input Value for n th Point in Tonnage Raw Count (in Calibrate mode)
.Data[239]	INT	-	Sample Wave Input Value for 223rd Point in Tonnage Raw Count (in Calibrate mode)
.Data[240]	INT	-	Sample Wave Input Value for 224th Point in Tonnage Raw Count (in Calibrate mode)

*: This is not Module's internal function

Tag “TonCommonControl” Format

Tag Index	Data Type	Bit	Description
[0]	INT	-	
[1]	INT	-	
[2]	INT	-	
[3]	INT	-	
[4]	INT	-	
[5]	INT	-	
[6]	INT	-	
[7]	INT	-	SYSTEM SETUP BITS
	Bit	0	*Disable Wave Transfer Bit (0 = Enabled, 1 =Disabled)
	Bit	1	*Enable Wave Data Checksum (0 = Disabled, 1 = Enabled)
	Bit	2	Resolver Input Calibration Bit (Factory use Only)
	Bit	3	
	Bit	4	
	Bit	5	
	Bit	6	
[8]	INT	-	
[9]	INT	-	
[10]	INT	-	
[11]	INT	-	MODULE READY BITS
	Bit	0	Module 1 Ready Bit
	Bit	1	Module 2 Ready Bit
	Bit	2	Module 3 Ready Bit
	Bit	3	Module 4 Ready Bit
	Bit	4	Module 5 Ready Bit
	Bit	5	Module 6 Ready Bit
[12]	INT	-	
[13]	INT	-	
[14]	INT	-	
[15]	INT	-	TONNAGE MODULE 1 ALARM BITS
	Bit	0	-
	Bit	1	-
	Bit	2	-
	Bit	3	-
	Bit	4	Ch1 Capacity Alarm Bit for Module 1 Indication Bit
	Bit	5	Ch2 Capacity Alarm Bit for Module 1 Indication Bit
	Bit	6	-
	Bit	7	-
	Bit	8	Ch1 High Tracking Alarm Bit for Module 1 Indication Bit
	Bit	9	Ch1 Low Tracking Alarm Bit for Module 1 Indication Bit
	Bit	10	Ch2 High Tracking Alarm Bit for Module 1 Indication Bit
	Bit	11	Ch2 Low Tracking Alarm Bit for Module 1 Indication Bit
	Bit	12	-
	Bit	13	-
	Bit	14	-
	Bit	15	-
[16]	INT	-	TONNAGE MODULE 2 ALARM BITS (use index [15] for bit description)
[17]	INT	-	TONNAGE MODULE 3 ALARM BITS (use index [15] for bit description)
[18]	INT	-	TONNAGE MODULE 4 ALARM BITS (use index [15] for bit description)
[19]	INT	-	TONNAGE MODULE 5 ALARM BITS (use index [15] for bit description)
[20]	INT	-	TONNAGE MODULE 6 ALARM BITS (use index [15] for bit description)
[21]... [26]	INT	-	
[27]	INT	-	Ch1 Peak tonnage value for Module 1
[28]	INT	-	Ch2 Peak tonnage value for Module 1
[29]	INT	-	Ch1 Peak tonnage value for Module 2
[30]	INT	-	Ch2 Peak tonnage value for Module 2

Program Tags per Module

Tonnage_Mx.CurWave_1 : Ch1 Current load signature data (224 words)
Tonnage_Mx.CurWave_2 : Ch2 Current LDT signature data (224 words)
Tonnage_Mx.SamWave_1 : Sample load signature data (224 words) available at Monitor Mode

Wave Data Format

.Data[0]	INT	-	Index 1 – Current or Sample Wave Data In AD Count
.Data[1]	INT	-	Index 2 – Current or Sample Wave Data In AD Count
.Data[x]	INT	-	Index y – Current or Sample Wave Data In AD Count
.Data[222]	INT	-	Index 223 - Current or Sample Wave Data In AD Count
.Data[223]	INT	-	Index 224 - Current or Sample Wave Data In AD Count
.Data[224]	INT	-	Wave data Type Indication 101 = Ch1 Current Wave 102 = LDT Current Wave 201 = Ch1 Sample Wave *
.Data[225]	INT	-	Update Count
.Data[226]	INT	-	High AD value Use This value to find the actual wave tonnage conversion factor. This Factor applies to both Current Wave and Sample Wave data Factor = Peak value in Ton / High AD value Actual Tonnage = Wave Data x Factor
.Data[227]	INT	-	Peak value in Ton
.Data[228]	INT	-	Low AD value
.Data[229]	INT	-	Wave data error check sum
.Data[230]	INT	-	Reported Tracking Alarm Position in LDT Raw Count value for alarm
.Data[231]	INT	-	Reported Tracking Alarm Tonnage value at the alarm position

Tonnage_Mx.DataCommon : Copy of INPUT Image data
Tonnage_Mx.Recipe_Job_Data : Job Recipe Data (2640 words)
240words are allocated for each Job for total 11 jobs.

Recipe_Job_Data Format

Data Tags Local:x.O	Data Type	Bit	Description
.Data[0]	INT	-	0 : Job Recipe Index 0 indicator
.Data[1]	INT	-	Spare
.Data[2]	INT	-	Spare
.Data[3]	INT	-	Spare
.Data[4]	INT	-	Set Scale Value
.Data[5]	INT	-	Set Look Window Start Position in LDT Raw Count
.Data[6]	INT	-	Set Look Window Time in msec
.Data[7]	INT	-	Set Ch1 High Capacity Alarm Value
.Data[8]	INT	-	Set LDT Minimum position LDT raw count value (used for trigger Capacity alarm window)
.Data[9]	Bit	0	-
	Bit	1	Tracking Alarm On/Off
	Bit	2	-
	Bit	3	-
	Bit	4	Alarm Value type (1 = Tolerance in Ton, 0 = Tolerance in Percent)
	Bit	5	AMPTRACK On/Off
.Data[10]	INT	-	Set Sampling Cycle Count (0, 2, 4, 8, and 16) 0 = no sampling. Use sample data from Output memory
.Data[11]	INT	-	Set Low Alarm Inhibit Count
.Data[12]	INT	-	Alarm Monitoring Start Time in msec (Tracking alarm only)
.Data[13]	INT	-	Alarm Monitoring Stop Time in msec (Tracking alarm only)
.Data[14]	L Byte	-	Set Ch1 Low Tolerance value
	H Byte	-	Set Ch1 High Tolerance value
.Data[15]	INT	-	N/A
.Data[16]	L Byte	-	Set Thresh Hold for Tracking Alarm (In Percent)
	H Byte	-	
.Data[17]	INT	-	Sample Wave Input Value for 1 st Point in Tonnage Raw Count (in Calibrate mode)
.Data[18]	INT	-	Sample Wave Input Value for 2 nd Point in Tonnage Raw Count (in Calibrate mode)
.Data[x]	INT	-	Sample Wave Input Value for n th Point in Tonnage Raw Count (in Calibrate mode)
.Data[239]	INT	-	Sample Wave Input Value for 223rd Point in Tonnage Raw Count (in Calibrate mode)

.Data[240]	INT	-	1: Job Recipe Index1 indicator
.Data[241]	INT	-	Spare
.Data[242] ..[2639]			Format repeats every 240 words

How To Save and Download from PLC Job Recipe Memory

Saving Current Job to the Recipe Data

1. Assign proper values to **Local:x:O.Data[4]** – [240] for current job setting
2. Assign **Local:x:O.Data[2]** for the Job Recipe number(0 –10) you wan to save at .
3. Turn on bit **Local:x:O.Data[1].5** to save the current settings to Recipe data.

Download a Job from Recipe Data to Current Job

1. Assign **Local:x:O.Data[2]** for the Job Recipe number(0 –10) you want download.
2. Turn on bit **Local:x:O.Data[1].4** to download the recipe job to current job.

How To Store Current Job to PLC Job Recipe Memory Using RSTMonLDT PC Application.

1. Go to ALARM SETUP -> JOB RECIPE screen
2. Create a job for Job No. 0
3. Select Learn Cycle Count to one of the setting between 2 to 16 because there is no sample wave available for the first time.
4. Download the Job No. 0
5. Go to main tonnage screen.
6. Select Monitor Mode to learn new sample wave.
7. Once sample ready indicator is on, Go to ALARM SETUP screen
8. Select LEARN CYCLE count to 0
9. Click on SAVE TO RECIPE & PLC button.

This will store current job settings & sample wave data to both PLC memory and PC Recipe file.

Repeat the step above for Job No.1 to Job No.10

Note. Even though PC Recipe file can store up to 100 jobs per module, PLC Recipe only can store up to 11 jobs (0-10). Therefore, use only job No. 0 to Job No.10 to store to PLC Recipe Memory.