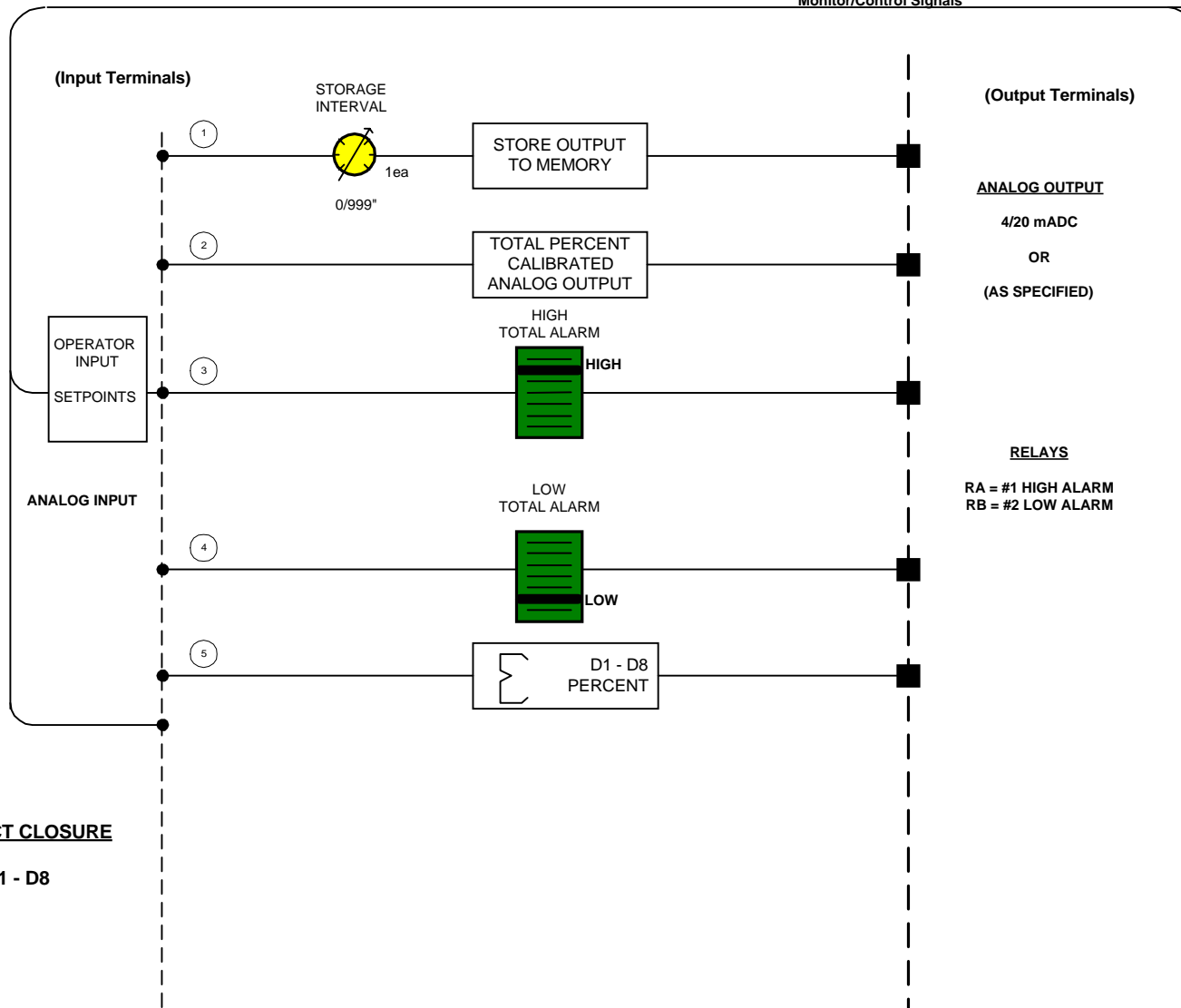


# Algorithms

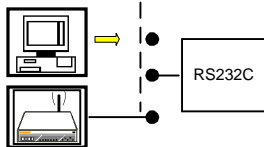
# Field-Equipment

Monitor/Control Signals



**CONTACT CLOSURE**

D1 - D8



**VOCABULARY LIST**

DRY CONTACT  
ADDER

## Legend

- (x) = Algorithm Number
- ( ) = Wiring Table Designations. Refer to Page 2 of WSD (Figure 2) drawing for physical layout/connection location.
- = Begin Algorithm
- = End Algorithm

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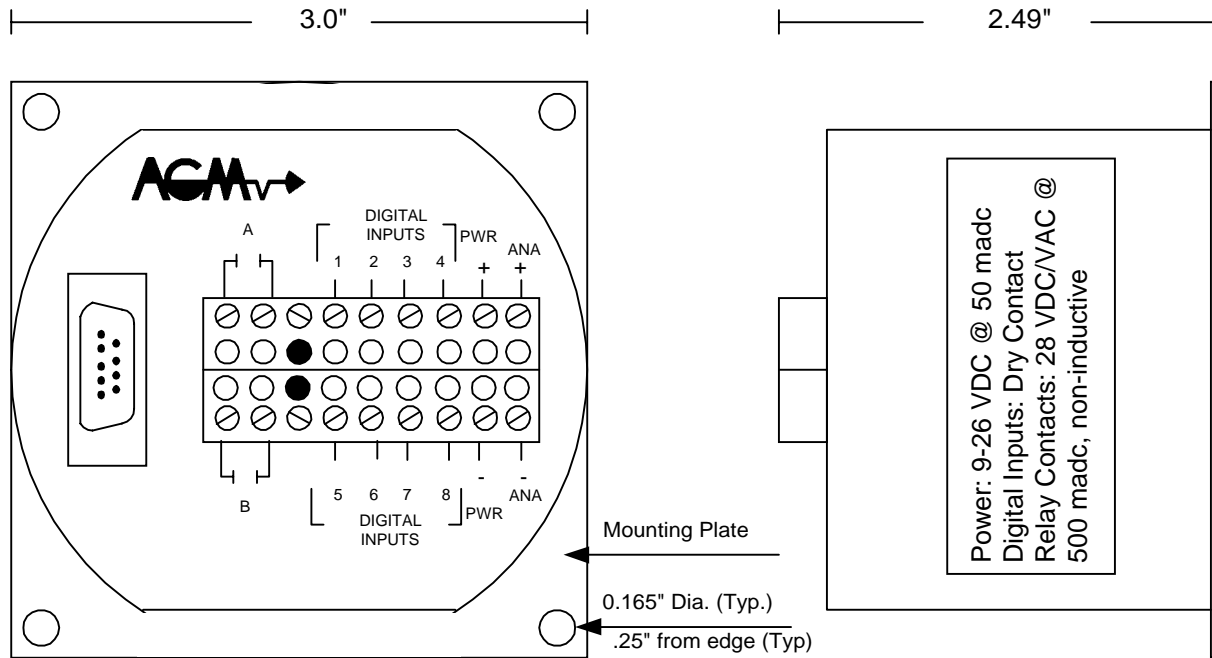
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Knowledge Map

AGM

(1-8 CONTACT CLOSURE TO ANALOG CONVERTER)

Signature	Date	Ref SP14	Rev NC
Drawn By		SO# XXXX	Sheet
Checked By		XXXX	_1 of_3
Cust Approval	__/__/__		



**Power:** 9-26 VDC @ 50 mADC  
**Digital Inputs:** Dry Contact  
**Relay Contacts:** 28 VDC/VAC @ 500 mADC, non-inductive

**Data Handler Operations**

The Data Handler (SPM 9000-C2I) is designed to calculate and record a weighted digital input. The data handler will scale the analog output, for the summation of digital inputs close this value is stored to memory based on the storage interval. The maximum rate of recording is one record per second. Output relay R1 (A) will act as a high alarm and R2 (B) will act as a low alarm.

**Active Commands**

Command	Description	Results
VERS	Data handler version	Display Version of Data Handler
CD	Configure Data	Enable Configure Routines
DA	Dump Data	Dumps stores data
RD	Read Data	Displays digital status Displays relay status

	Signature	Date		Rev
Drawn By			Ref SP14	NC
Checked By			SO# XXXX	Sheet
Cust Approval		__/__/__		2 of 3

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Front Panel Notes  
AGM  
(1-8 CONTACT CLOSURE TO ANALOG CONVERTER)

To access the DH configuration, first connect the DH puk to your computer's serial communication port using a straight through RS232 cable. Then start a terminal program. You can use any terminal program that supports serial ASCII communications or you can use the SCADA program supplied with this shipment. The communications parameters for this DH puk is set at 1200 baud, no parity, 8 data bits and 1 stop bit.

To start configuration enter "CD" without the quotes and followed by a carriage return (Enter Key). The DH puk will respond with the following. To change any settings, enter the new setting after the prompt. To keep the current setting, enter a carriage return only. If you make an error while entering the new value, use the backspace key to back up and reenter the correct value.

**Date : MM/DD/YY :** This message will display the current date as seen from the data handler. If different than the actual date then enter it as it is formatted above (i.e. MM/DD/YY, example 03/13/90).

**Time : HH:MM:SS :** This message will display the current time as seen from the data handler. If different than the actual time then enter it as it is formatted above (i.e. HH:MM:SS, example 01:30:00). Please note this is a 24 hour clock so midnight is 23:59:59. Hit <CR> to complete the step.

**Input 1: 25%:** Enter the percent weighting for digital input #1. Repeat for all digital inputs #2-8.

**Continue ? (N):** Enter "Y" to access digital inputs channels 5-8.

**High Stpt: 90%:** Enter the high total setpoint to energize relay #1.

**Low Stpt: 10%:** Enter the low total setpoint to energize relay #2.

**Store (300 sec):** Enter the delay between data logging in seconds.

**Continue ? (N):** This message verifies that you want to continue the DH memory. Doing so will write over any previously recorded data, so you can quit now by hitting <CR> or type "Y" <CR> to proceed.

**Zero Output (655):** This is used by the digital to analog converter to generate an analog output. An entry of 650 will produce roughly 4 mada output with an input of zero percent.

**Full Output (3285):** This is used by the digital to analog converter to generate an analog output. An entry of 3285 will produce about 20 mada output with 100 percent input.

**Date format(3):** This entry defines the amount of date information stored with each data point. Enter a number, 0-3 from the table below to set the date format. Memory allocation is also listed, the input reading uses 2 bytes per record. 0 = No date information recorded. 1 = Day of month only recorded (add 2 bytes per record). 2 = Month/Day recorded (add 4 bytes per record). 3 = Month/Day/Year recorded ( add 6 bytes per record )

**Time format(3):** This entry is used to configure what time information will be stored with each datapoint. 0 = No time information recorded. 1 = Minutes only recorded ( add 2 bytes per record ). 1 = Minutes only recorded ( add 2 bytes per record ). 2 = Hour:Minute recorded (add 4 bytes per record ). 3 = Hour:Minute:Second recorded ( add 6 bytes per record ).

**Prec.(62):** This entry is used to set display precision. To disable this function enter "0". This will reset the display to the default values. (i.e. 66). The most significant byte is the maximum field width and the least significant byte is the number of digits displayed to the right of the decimal.

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				Tucson, Arizona	
				Front Panel Notes	
				AGM	
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	Signature	Date		Rev	
Drawn By			Ref SP14	NC	
Checked By			SO# XXXX	Sheet	
Cust Approval		__/__/__	XXXX	3 of 3	