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The Company

We are an established world force in the design and manufacture of instrumentation for industrial process control, flow measurement, gas and liquid analysis and environmental applications.

As a part of ABB, a world leader in process automation technology, we offer customers application expertise, service and support worldwide.

We are committed to teamwork, high quality manufacturing, advanced technology and unrivalled service and support.

The quality, accuracy and performance of the Company's products result from over 100 years experience, combined with a continuous program of innovative design and development to incorporate the latest technology.

The UKAS Calibration Laboratory No. 0255 is just one of the ten flow calibration plants operated by the Company and is indicative of our dedication to quality and accuracy.

EN ISO 9001:2000



Cert. No. Q 05907

EN 29001 (ISO 9001)



Lenno, Italy – Cert. No. 9/90A

Stonehouse, U.K.



Electrical Safety

This equipment complies with the requirements of CEI/IEC 61010-1:2001-2 'Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use'. If the equipment is used in a manner NOT specified by the Company, the protection provided by the equipment may be impaired.

Symbols

One or more of the following symbols may appear on the equipment labelling:

	Warning – Refer to the manual for instructions		Direct current supply only
	Caution – Risk of electric shock		Alternating current supply only
	Protective earth (ground) terminal		Both direct and alternating current supply
	Earth (ground) terminal		The equipment is protected through double insulation

Information in this manual is intended only to assist our customers in the efficient operation of our equipment. Use of this manual for any other purpose is specifically prohibited and its contents are not to be reproduced in full or part without prior approval of the Technical Publications Department.

Health and Safety

To ensure that our products are safe and without risk to health, the following points must be noted:

1. The relevant sections of these instructions must be read carefully before proceeding.
2. Warning labels on containers and packages must be observed.
3. Installation, operation, maintenance and servicing must only be carried out by suitably trained personnel and in accordance with the information given.
4. Normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and/or temperature.
5. Chemicals must be stored away from heat, protected from temperature extremes and powders kept dry. Normal safe handling procedures must be used.
6. When disposing of chemicals ensure that no two chemicals are mixed.

Safety advice concerning the use of the equipment described in this manual or any relevant hazard data sheets (where applicable) may be obtained from the Company address on the back cover, together with servicing and spares information.

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1 Introduction

This Operating Guide describes the Modbus serial data communications option for the Multipoint Videographic Recorder and must be used in conjunction with the User Guide (part no. IM/SM3000) supplied with the instrument.

Note. The Modbus option provides the following facilities:

- Standard RS422/485 communications.
- Modbus RTU protocol – for master (host computer) to slave (Multipoint Videographic Recorder) system.
- 500V DC isolation from external connections to the instrument.
- Two-wire or four-wire communication.
- 1200, 2400, 4800, 9600, 19200, 38400, or 115200 baud transmission rate.
- Parity-checking – odd, even or none.

The instrument is designed to operate as a Remote Terminal Unit (RTU) slave when communicating with a master (host) system.

2 Electrical Installation

This section describes the connection of serial data cables between the master (host computer) and slave instrument on a Modbus serial link. All connections other than those used for serial communication are shown in Section 5 of the User Guide.

2.1 Host Computer Serial Communications

The serial interface option module has been designed to operate using the Modbus Remote Terminal Unit (RTU) Master/Slave protocol.

An appropriate RS422/485 communications driver must be fitted to the host (Master) computer. It is strongly recommended that the interface has galvanic isolation to protect the computer from lightning damage and to increase signal immunity to noise pick-up.

2.2 Two-wire and Four-wire Connection – Fig. 2.1

Modbus serial communications must be configured as either two-wire or four-wire serial links – see Fig. 2.1. Two-/four-wire operation must also be selected in the the instrument's Configuration Level – see Section 3.1, page 4.

The instrument must be added to the link configuration on the host system – refer to information supplied with the host system.

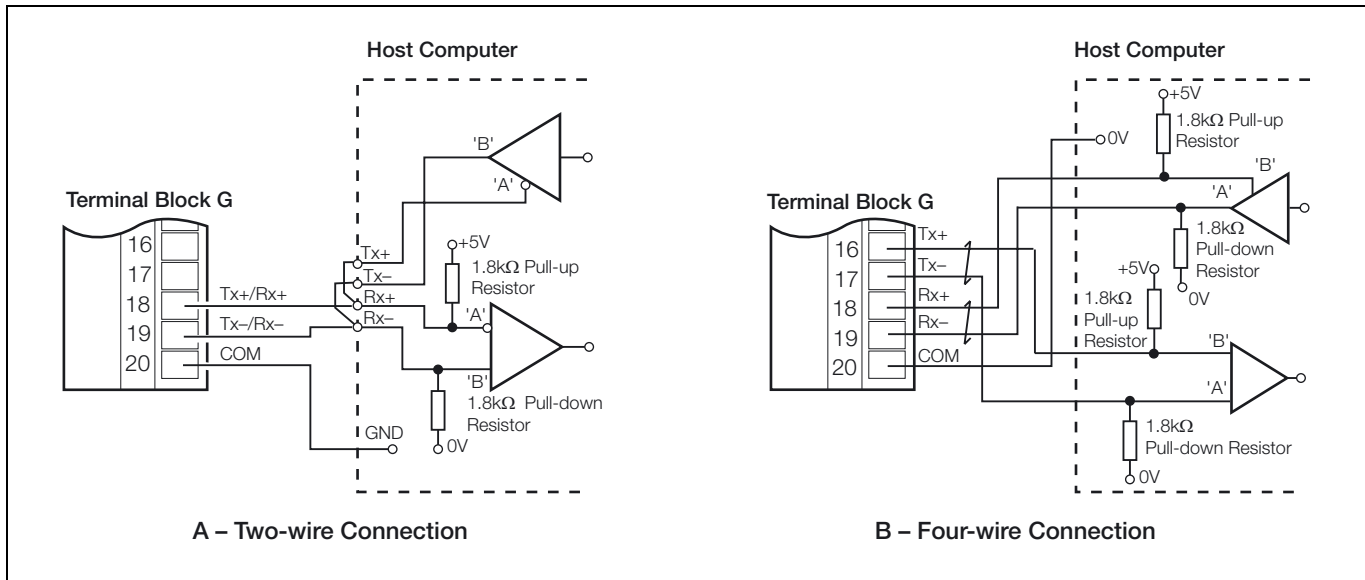


Fig. 2.1 Two-wire and Four-wire Connection

2.3 Pull-up and Pull-down Resistors – Fig. 2.1

To prevent false triggering of slaves when the master (host computer) is inactive, pull-up and pull-down resistors must be fitted to the RS422/485 interface in the host computer.

Resistors are normally connected to the interface by means of hard-wired links or switches – refer to the manufacturer's instructions

2.4 Termination Resistor – Fig. 2.2

For long transmission lines, a 120Ω termination resistor must be fitted to the last slave in the chain – see Fig. 2.2.

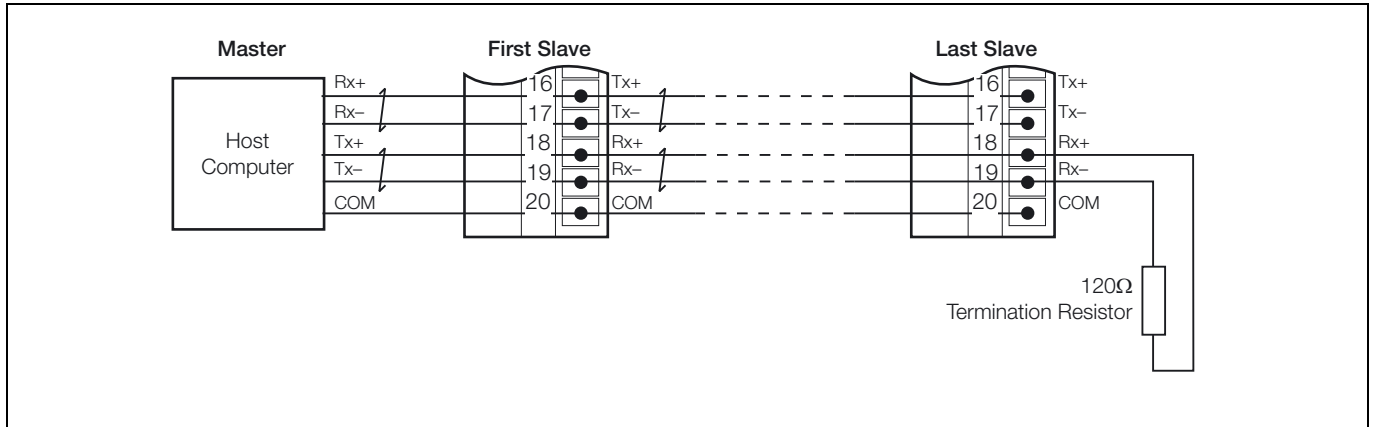


Fig. 2.2 Connecting Multiple Slaves

2.5 Serial Connections – Figs. 2.1 and 2.2

Connections to the Modbus serial board must be made as shown in Fig. 2.1. Connections to two-wire or four-wire link configurations on systems with multiple slaves must be made in parallel as shown in Fig. 2.2. When connecting cable screens, ensure that 'ground loops' are not introduced.

The maximum serial data transmission line length for both RS422 and RS485 systems is 1200m. The types of cable that can be used are determined by the total line length:


- Up to 6m – standard screened or twisted pair cable.
- Up to 300m – twin twisted pair with overall foil screen and an integral drain wire.
- Up to 1.2km – twin twisted pair with separate foil screens and integral drain wires.

3 Configuration


3.1 Configuring Serial Communications

Access the Configuration Level as detailed in Section 4.1.2 of the User Guide (IM/SM3000) and configure the instrument as described below:


A:-Analog I/P	B:-Analog I/P	E:-Relay	F:-Hybrid	G:-RS485	
Protocol					Modbus

Type	Four wire	
------	-----------	---

Set the communication type: 4-wire or 2-wire.

Baud rate	19200	
-----------	-------	---

Set the Baud rate used by the host system: 1200, 2400, 4800, 9600, 19200, 38400, 115200.

Parity	Odd	
--------	-----	---

Set the Parity used by the host system: None, Odd, Even.

Address	1	
---------	---	---

Set a unique Modbus Address that allows the host system to identify the instrument on a Modbus link.

Note. Maximum 31 slaves per loop

4 Modbus Protocol

4.1 Modbus Commands Supported

The following Modbus commands are supported:

- 01 **Read Coil Status** – reads the on/off status of up to 120 consecutive digital states, starting at a specified address. The instrument returns zeros for points that do not contain defined data.
- 03 **Read Holding Registers** – reads up to 120 consecutive analog values, starting from a specified address. The instrument returns zeros for registers that do not contain defined data.
- 05 **Force Single Coil** – sets the value of a single coil (digital signal) at the specified address. The data value must be FF00Hex to set the signal ON and zero to turn it OFF. The instrument returns an exception response if the register is not currently writeable.
- 06 **Preset Single Register** – sets the value of a single register (analog value) at the specified address. The instrument returns an exception response if the register is not currently writeable. Limits defined in configuration are applied to the value before storage.
- 08 **Loopback Diagnostic Test** – used to test the integrity of Modbus transmissions. The instrument returns the message received.
- 15 **Force Multiple Coils** – the instrument carries out updates that are valid and returns an exception response if any of the coils are not currently writeable.
- 16 **Preset Multiple Registers** – the instrument carries out updates that are valid and generates an exception response if any of the registers are not currently writeable.

Note.

- Negative numbers are represented in '2's complement' format, e.g 1000 = 03E8 (Hex), -1000 = FC18 (Hex).
- The instrument cannot accept a new message until the current message has been processed and a reply sent to the master (maximum response time 50ms).
- The instrument monitors the elapsed time between receipt of characters from the host. If the elapsed time between two characters is 3.5 character times, the slave assumes the second character received is the start of a new message.

4.2 Modbus Exception Responses

If the instrument detects one of the errors listed in Table 4.1 while receiving a message from the host system, it replies with a response message consisting of the instrument's Modbus address, the function code, the error code and error check fields.

Code	Name	Definition
01	Illegal Function	The message function received is not an allowable action
02	Illegal Data Address	The address reference in the data field is not an allowable address
03	Illegal Data Value	The value referenced in the data field is not allowable in the addressed slave
07	Negative Acknowledgment	Received message error
08	Memory Parity Error	Parity check indicates an error in one or more of the characters received

Table 4.1 Modbus Exception Responses

5 Operating Mode

5.1 Operating Mode Modbus Coils

Tables 5.1 to 5.16 detail the contents of each Modbus coil. Each coil is assigned a register that can have one of two values: 0000 or 0001.

Analog Input	Modbus Coil (Read Only) 0 = Input OK 1 = Input failed	Analog Input	Modbus Coil (Read Only) 0 = Input OK 1 = Input failed
A1	0001	D1	0019
A2	0002	D2	0020
A3	0003	D3	0021
A4	0004	D4	0022
A5	0005	D5	0023
A6	0006	D6	0024
B1	0007	E1	0025
B2	0008	E2	0026
B3	0009	E3	0027
B4	0010	E4	0028
B5	0011	E5	0029
B6	0012	E6	0030
C1	0013	F1	0031
C2	0014	F2	0032
C3	0015	F3	0033
C4	0016	F4	0034
C5	0017	F5	0035
C6	0018	F6	0036

Table 5.1 Analog Input Fail States

Read Access		0 = Alarm inactive		Write Access		None	
		1 = Alarm active					
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Alarm 1.1A	0051	Alarm 1.10A	0087	Alarm 2.7A	0123	Alarm 3.4A	0159
Alarm 1.1B	0052	Alarm 1.10B	0088	Alarm 2.7B	0124	Alarm 3.4B	0160
Alarm 1.1C	0053	Alarm 1.10C	0089	Alarm 2.7C	0125	Alarm 3.4C	0161
Alarm 1.1D	0054	Alarm 1.10D	0090	Alarm 2.7D	0126	Alarm 3.4D	0162
Alarm 1.2A	0055	Alarm 1.11A	0091	Alarm 2.8A	0127	Alarm 3.5A	0163
Alarm 1.2B	0056	Alarm 1.11B	0092	Alarm 2.8B	0128	Alarm 3.5B	0164
Alarm 1.2C	0057	Alarm 1.11C	0093	Alarm 2.8C	0129	Alarm 3.5C	0165
Alarm 1.2D	0058	Alarm 1.11D	0094	Alarm 2.8D	0130	Alarm 3.5D	0166
Alarm 1.3A	0059	Alarm 1.12A	0095	Alarm 2.9A	0131	Alarm 3.6A	0167
Alarm 1.3B	0060	Alarm 1.12B	0096	Alarm 2.9B	0132	Alarm 3.6B	0168
Alarm 1.3C	0061	Alarm 1.12C	0097	Alarm 2.9C	0133	Alarm 3.6C	0169
Alarm 1.3D	0062	Alarm 1.12D	0098	Alarm 2.9D	0134	Alarm 3.6D	0170
Alarm 1.4A	0063	Alarm 2.1A	0099	Alarm 2.10A	0135	Alarm 3.7A	0171
Alarm 1.4B	0064	Alarm 2.1B	0100	Alarm 2.10B	0136	Alarm 3.7B	0172
Alarm 1.4C	0065	Alarm 2.1C	0101	Alarm 2.10C	0137	Alarm 3.7C	0173
Alarm 1.4D	0066	Alarm 2.1D	0102	Alarm 2.10D	0138	Alarm 3.7D	0174
Alarm 1.5A	0067	Alarm 2.2A	0103	Alarm 2.11A	0139	Alarm 3.8A	0175
Alarm 1.5B	0068	Alarm 2.2B	0104	Alarm 2.11B	0140	Alarm 3.8B	0176
Alarm 1.5C	0069	Alarm 2.2C	0105	Alarm 2.11C	0141	Alarm 3.8C	0177
Alarm 1.5D	0070	Alarm 2.2D	0106	Alarm 2.11D	0142	Alarm 3.8D	0178
Alarm 1.6A	0071	Alarm 2.3A	0107	Alarm 2.12A	0143	Alarm 3.9A	0179
Alarm 1.6B	0072	Alarm 2.3B	0108	Alarm 2.12B	0144	Alarm 3.9B	0180
Alarm 1.6C	0073	Alarm 2.3C	0109	Alarm 2.12C	0145	Alarm 3.9C	0181
Alarm 1.6D	0074	Alarm 2.3D	0110	Alarm 2.12D	0146	Alarm 3.9D	0182
Alarm 1.7A	0075	Alarm 2.4A	0111	Alarm 3.1A	0147	Alarm 3.10A	0183
Alarm 1.7B	0076	Alarm 2.4B	0112	Alarm 3.1B	0148	Alarm 3.10B	0184
Alarm 1.7C	0077	Alarm 2.4C	0113	Alarm 3.1C	0149	Alarm 3.10C	0185
Alarm 1.7D	0078	Alarm 2.4D	0114	Alarm 3.1D	0150	Alarm 3.10D	0186
Alarm 1.8A	0079	Alarm 2.5A	0115	Alarm 3.2A	0151	Alarm 3.11A	0187
Alarm 1.8B	0080	Alarm 2.5B	0116	Alarm 3.2B	0152	Alarm 3.11B	0188
Alarm 1.8C	0081	Alarm 2.5C	0117	Alarm 3.2C	0153	Alarm 3.11C	0189
Alarm 1.8D	0082	Alarm 2.5D	0118	Alarm 3.2D	0154	Alarm 3.11D	0190
Alarm 1.9A	0083	Alarm 2.6A	0119	Alarm 3.3A	0155	Alarm 3.12A	0191
Alarm 1.9B	0084	Alarm 2.6B	0120	Alarm 3.3B	0156	Alarm 3.12B	0192
Alarm 1.9C	0085	Alarm 2.6C	0121	Alarm 3.3C	0157	Alarm 3.12C	0193
Alarm 1.9D	0086	Alarm 2.6D	0122	Alarm 3.3D	0158	Alarm 3.12D	0194

Table 5.2 Alarm Active/Inactive States

Read Access		Write Access					
0 = Alarm inactive		None					
1 = Alarm active							
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Alarm 4.1A	0195	Alarm 4.10A	0231	Alarm 5.7A	0267	Alarm 6.4A	0303
Alarm 4.1B	0196	Alarm 4.10B	0232	Alarm 5.7B	0268	Alarm 6.4B	0304
Alarm 4.1C	0197	Alarm 4.10C	0233	Alarm 5.7C	0269	Alarm 6.4C	0305
Alarm 4.1D	0198	Alarm 4.10D	0234	Alarm 5.7D	0270	Alarm 6.4D	0306
Alarm 4.2A	0199	Alarm 4.11A	0235	Alarm 5.8A	0271	Alarm 6.5A	0307
Alarm 4.2B	0200	Alarm 4.11B	0236	Alarm 5.8B	0272	Alarm 6.5B	0308
Alarm 4.2C	0201	Alarm 4.11C	0237	Alarm 5.8C	0273	Alarm 6.5C	0309
Alarm 4.2D	0202	Alarm 4.11D	0238	Alarm 5.8D	0274	Alarm 6.5D	0310
Alarm 4.3A	0203	Alarm 4.12A	0239	Alarm 5.9A	0275	Alarm 6.6A	0311
Alarm 4.3B	0204	Alarm 4.12B	0240	Alarm 5.9B	0276	Alarm 6.6B	0312
Alarm 4.3C	0205	Alarm 4.12C	0241	Alarm 5.9C	0277	Alarm 6.6C	0313
Alarm 4.3D	0206	Alarm 4.12D	0242	Alarm 5.9D	0278	Alarm 6.6D	0314
Alarm 4.4A	0207	Alarm 5.1A	0243	Alarm 5.10A	0279	Alarm 6.7A	0315
Alarm 4.4B	0208	Alarm 5.1B	0244	Alarm 5.10B	0280	Alarm 6.7B	0316
Alarm 4.4C	0209	Alarm 5.1C	0245	Alarm 5.10C	0281	Alarm 6.7C	0317
Alarm 4.4D	0210	Alarm 5.1D	0246	Alarm 5.10D	0282	Alarm 6.7D	0318
Alarm 4.5A	0211	Alarm 5.2A	0247	Alarm 5.11A	0283	Alarm 6.8A	0319
Alarm 4.5B	0212	Alarm 5.2B	0248	Alarm 5.11B	0284	Alarm 6.8B	0320
Alarm 4.5C	0213	Alarm 5.2C	0249	Alarm 5.11C	0285	Alarm 6.8C	0321
Alarm 4.5D	0214	Alarm 5.2D	0250	Alarm 5.11D	0286	Alarm 6.8D	0322
Alarm 4.6A	0215	Alarm 5.3A	0251	Alarm 5.12A	0287	Alarm 6.9A	0323
Alarm 4.6B	0216	Alarm 5.3B	0252	Alarm 5.12B	0288	Alarm 6.9B	0324
Alarm 4.6C	0217	Alarm 5.3C	0253	Alarm 5.12C	0289	Alarm 6.9C	0325
Alarm 4.6D	0218	Alarm 5.3D	0254	Alarm 5.12D	0290	Alarm 6.9D	0326
Alarm 4.7A	0219	Alarm 5.4A	0255	Alarm 6.1A	0291	Alarm 6.10A	0327
Alarm 4.7B	0220	Alarm 5.4B	0256	Alarm 6.1B	0292	Alarm 6.10B	0328
Alarm 4.7C	0221	Alarm 5.4C	0257	Alarm 6.1C	0293	Alarm 6.10C	0329
Alarm 4.7D	0222	Alarm 5.4D	0258	Alarm 6.1D	0294	Alarm 6.10D	0330
Alarm 4.8A	0223	Alarm 5.5A	0259	Alarm 6.2A	0295	Alarm 6.11A	0331
Alarm 4.8B	0224	Alarm 5.5B	0260	Alarm 6.2B	0296	Alarm 6.11B	0332
Alarm 4.8C	0225	Alarm 5.5C	0261	Alarm 6.2C	0297	Alarm 6.11C	0333
Alarm 4.8D	0226	Alarm 5.5D	0262	Alarm 6.2D	0298	Alarm 6.11D	0334
Alarm 4.9A	0227	Alarm 5.6A	0263	Alarm 6.3A	0299	Alarm 6.12A	0335
Alarm 4.9B	0228	Alarm 5.6B	0264	Alarm 6.3B	0300	Alarm 6.12B	0336
Alarm 4.9C	0229	Alarm 5.6C	0265	Alarm 6.3C	0301	Alarm 6.12C	0337
Alarm 4.9D	0230	Alarm 5.6D	0266	Alarm 6.3D	0302	Alarm 6.12D	0338

Table 5.2 Alarm Active/Inactive States (Continued)

Read Access				Write Access			
0 = Alarm acknowledged or inactive				0 = No affect			
1 = Alarm active and unacknowledged				1 = Acknowledge			
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Alarm 1.1A	0351	Alarm 1.10A	0387	Alarm 2.7A	0423	Alarm 3.4A	0459
Alarm 1.1B	0352	Alarm 1.10B	0388	Alarm 2.7B	0424	Alarm 3.4B	0460
Alarm 1.1C	0353	Alarm 1.10C	0389	Alarm 2.7C	0425	Alarm 3.4C	0461
Alarm 1.1D	0354	Alarm 1.10D	0390	Alarm 2.7D	0426	Alarm 3.4D	0462
Alarm 1.2A	0355	Alarm 1.11A	0391	Alarm 2.8A	0427	Alarm 3.5A	0463
Alarm 1.2B	0356	Alarm 1.11B	0392	Alarm 2.8B	0428	Alarm 3.5B	0464
Alarm 1.2C	0357	Alarm 1.11C	0393	Alarm 2.8C	0429	Alarm 3.5C	0465
Alarm 1.2D	0358	Alarm 1.11D	0394	Alarm 2.8D	0430	Alarm 3.5D	0466
Alarm 1.3A	0359	Alarm 1.12A	0395	Alarm 2.9A	0431	Alarm 3.6A	0467
Alarm 1.3B	0360	Alarm 1.12B	0396	Alarm 2.9B	0432	Alarm 3.6B	0468
Alarm 1.3C	0361	Alarm 1.12C	0397	Alarm 2.9C	0433	Alarm 3.6C	0469
Alarm 1.3D	0362	Alarm 1.12D	0398	Alarm 2.9D	0434	Alarm 3.6D	0470
Alarm 1.4A	0363	Alarm 2.1A	0399	Alarm 2.10A	0435	Alarm 3.7A	0471
Alarm 1.4B	0364	Alarm 2.1B	0400	Alarm 2.10B	0436	Alarm 3.7B	0472
Alarm 1.4C	0365	Alarm 2.1C	0401	Alarm 2.10C	0437	Alarm 3.7C	0473
Alarm 1.4D	0366	Alarm 2.1D	0402	Alarm 2.10D	0438	Alarm 3.7D	0474
Alarm 1.5A	0367	Alarm 2.2A	0403	Alarm 2.11A	0439	Alarm 3.8A	0475
Alarm 1.5B	0368	Alarm 2.2B	0404	Alarm 2.11B	0440	Alarm 3.8B	0476
Alarm 1.5C	0369	Alarm 2.2C	0405	Alarm 2.11C	0441	Alarm 3.8C	0477
Alarm 1.5D	0370	Alarm 2.2D	0406	Alarm 2.11D	0442	Alarm 3.8D	0478
Alarm 1.6A	0371	Alarm 2.3A	0407	Alarm 2.12A	0443	Alarm 3.9A	0479
Alarm 1.6B	0372	Alarm 2.3B	0408	Alarm 2.12B	0444	Alarm 3.9B	0480
Alarm 1.6C	0373	Alarm 2.3C	0409	Alarm 2.12C	0445	Alarm 3.9C	0481
Alarm 1.6D	0374	Alarm 2.3D	0410	Alarm 2.12D	0446	Alarm 3.9D	0482
Alarm 1.7A	0375	Alarm 2.4A	0411	Alarm 3.1A	0447	Alarm 3.10A	0483
Alarm 1.7B	0376	Alarm 2.4B	0412	Alarm 3.1B	0448	Alarm 3.10B	0484
Alarm 1.7C	0377	Alarm 2.4C	0413	Alarm 3.1C	0449	Alarm 3.10C	0485
Alarm 1.7D	0378	Alarm 2.4D	0414	Alarm 3.1D	0450	Alarm 3.10D	0486
Alarm 1.8A	0379	Alarm 2.5A	0415	Alarm 3.2A	0451	Alarm 3.11A	0487
Alarm 1.8B	0380	Alarm 2.5B	0416	Alarm 3.2B	0452	Alarm 3.11B	0488
Alarm 1.8C	0381	Alarm 2.5C	0417	Alarm 3.2C	0453	Alarm 3.11C	0489
Alarm 1.8D	0382	Alarm 2.5D	0418	Alarm 3.2D	0454	Alarm 3.11D	0490
Alarm 1.9A	0383	Alarm 2.6A	0419	Alarm 3.3A	0455	Alarm 3.12A	0491
Alarm 1.9B	0384	Alarm 2.6B	0420	Alarm 3.3B	0456	Alarm 3.12B	0492
Alarm 1.9C	0385	Alarm 2.6C	0421	Alarm 3.3C	0457	Alarm 3.12C	0493
Alarm 1.9D	0386	Alarm 2.6D	0422	Alarm 3.3D	0458	Alarm 3.12D	0494

Table 5.3 Alarm Acknowledge States

Read Access 0 = Alarm acknowledged or inactive 1 = Alarm active and unacknowledged		Write Access 0 = No affect 1 = Acknowledge					
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Alarm 4.1A	0495	Alarm 4.10A	0531	Alarm 5.7A	0567	Alarm 6.4A	0603
Alarm 4.1B	0496	Alarm 4.10B	0532	Alarm 5.7B	0568	Alarm 6.4B	0604
Alarm 4.1C	0497	Alarm 4.10C	0533	Alarm 5.7C	0569	Alarm 6.4C	0605
Alarm 4.1D	0498	Alarm 4.10D	0534	Alarm 5.7D	0570	Alarm 6.4D	0606
Alarm 4.2A	0499	Alarm 4.11A	0535	Alarm 5.8A	0571	Alarm 6.5A	0607
Alarm 4.2B	0500	Alarm 4.11B	0536	Alarm 5.8B	0572	Alarm 6.5B	0608
Alarm 4.2C	0501	Alarm 4.11C	0537	Alarm 5.8C	0573	Alarm 6.5C	0609
Alarm 4.2D	0502	Alarm 4.11D	0538	Alarm 5.8D	0574	Alarm 6.5D	0610
Alarm 4.3A	0503	Alarm 4.12A	0539	Alarm 5.9A	0575	Alarm 6.6A	0611
Alarm 4.3B	0504	Alarm 4.12B	0540	Alarm 5.9B	0576	Alarm 6.6B	0612
Alarm 4.3C	0505	Alarm 4.12C	0541	Alarm 5.9C	0577	Alarm 6.6C	0613
Alarm 4.3D	0506	Alarm 4.12D	0542	Alarm 5.9D	0578	Alarm 6.6D	0614
Alarm 4.4A	0507	Alarm 5.1A	0543	Alarm 5.10A	0579	Alarm 6.7A	0615
Alarm 4.4B	0508	Alarm 5.1B	0544	Alarm 5.10B	0580	Alarm 6.7B	0616
Alarm 4.4C	0509	Alarm 5.1C	0545	Alarm 5.10C	0581	Alarm 6.7C	0617
Alarm 4.4D	0510	Alarm 5.1D	0546	Alarm 5.10D	0582	Alarm 6.7D	0618
Alarm 4.5A	0511	Alarm 5.2A	0547	Alarm 5.11A	0583	Alarm 6.8A	0619
Alarm 4.5B	0512	Alarm 5.2B	0548	Alarm 5.11B	0584	Alarm 6.8B	0620
Alarm 4.5C	0513	Alarm 5.2C	0549	Alarm 5.11C	0585	Alarm 6.8C	0621
Alarm 4.5D	0514	Alarm 5.2D	0550	Alarm 5.11D	0586	Alarm 6.8D	0622
Alarm 4.6A	0515	Alarm 5.3A	0551	Alarm 5.12A	0587	Alarm 6.9A	0623
Alarm 4.6B	0516	Alarm 5.3B	0552	Alarm 5.12B	0588	Alarm 6.9B	0624
Alarm 4.6C	0517	Alarm 5.3C	0553	Alarm 5.12C	0589	Alarm 6.9C	0625
Alarm 4.6D	0518	Alarm 5.3D	0554	Alarm 5.12D	0590	Alarm 6.9D	0626
Alarm 4.7A	0519	Alarm 5.4A	0555	Alarm 6.1A	0591	Alarm 6.10A	0627
Alarm 4.7B	0520	Alarm 5.4B	0556	Alarm 6.1B	0592	Alarm 6.10B	0628
Alarm 4.7C	0521	Alarm 5.4C	0557	Alarm 6.1C	0593	Alarm 6.10C	0629
Alarm 4.7D	0522	Alarm 5.4D	0558	Alarm 6.1D	0594	Alarm 6.10D	0630
Alarm 4.8A	0523	Alarm 5.5A	0559	Alarm 6.2A	0595	Alarm 6.11A	0631
Alarm 4.8B	0524	Alarm 5.5B	0560	Alarm 6.2B	0596	Alarm 6.11B	0632
Alarm 4.8C	0525	Alarm 5.5C	0561	Alarm 6.2C	0597	Alarm 6.11C	0633
Alarm 4.8D	0526	Alarm 5.5D	0562	Alarm 6.2D	0598	Alarm 6.11D	0634
Alarm 4.9A	0527	Alarm 5.6A	0563	Alarm 6.3A	0599	Alarm 6.12A	0635
Alarm 4.9B	0528	Alarm 5.6B	0564	Alarm 6.3B	0600	Alarm 6.12B	0636
Alarm 4.9C	0529	Alarm 5.6C	0565	Alarm 6.3C	0601	Alarm 6.12C	0637
Alarm 4.9D	0530	Alarm 5.6D	0566	Alarm 6.3D	0602	Alarm 6.12D	0638

Table 5.3 Alarm Acknowledge States (Continued)

Read Access: Always reads '0'		Write Access: 0 = No effect 1 = Activate	
Title	Modbus Coil	Title	Modbus Coil
Operator Message 1	0651	Operator Message 13	0663
Operator Message 2	0652	Operator Message 14	0664
Operator Message 3	0653	Operator Message 15	0665
Operator Message 4	0654	Operator Message 16	0666
Operator Message 5	0655	Operator Message 17	0667
Operator Message 6	0656	Operator Message 18	0668
Operator Message 7	0657	Operator Message 19	0669
Operator Message 8	0658	Operator Message 20	0670
Operator Message 9	0659	Operator Message 21	0671
Operator Message 10	0660	Operator Message 22	0672
Operator Message 11	0661	Operator Message 23	0673
Operator Message 12	0662	Operator Message 24	0674

Table 5.4 Operator Messages

Read Only 0 = Output or Input Inactive 1 = Output or Input Active							
Modbus Coil Numbers							
Channel	Digital Inputs	Digital Outputs	Relay Outputs	Channel	Digital Inputs	Digital Outputs	Relay Outputs
A1	0701	0751	0801	E1	0725	0775	0825
A2	0702	0752	0802	E2	0726	0776	0826
A3	0703	0753	0803	E3	0727	0777	0827
A4	0704	0754	0804	E4	0728	0778	0828
A5	0705	0755	0805	E5	0729	0779	0829
A6	0706	0756	0806	E6	0730	0780	0830
B1	0707	0757	0807	F1	0731	0781	0831
B2	0708	0758	0808	F2	0732	0782	0832
B3	0709	0759	0809	F3	0733	0783	0833
B4	0710	0760	0810	F4	0734	0784	0834
B5	0711	0761	0811	F5	0735	0785	0835
B6	0712	0762	0812	F6	0736	0786	0836
C1	0713	0763	0813	G1	0737	0787	0837
C2	0714	0764	0814	G2	0738	0788	0838
C3	0715	0765	0815	G3	0739	0789	0839
C4	0716	0766	0816	G4	0740	0790	0840
C5	0717	0767	0817	G5	0741	0791	0841
C6	0718	0768	0818	G6	0742	0792	0842
D1	0719	0769	0819	H1	0743	0793	0843
D2	0720	0770	0820	H2	0744	0794	0844
D3	0721	0771	0821	H3	0745	0795	0845
D4	0722	0772	0822	H4	0746	0796	0846
D5	0723	0773	0823	H5	0747	0797	0847
D6	0724	0774	0824	H6	0748	0798	0848

Table 5.5 Digital I/O States

Read Access				Write Access			
0 = Stopped				0 = Stop			
1 = Running				1 = Go			
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Totalizer 1.1A	0851	Totalizer 2.7A	0887	Totalizer 4.1A	0923	Totalizer 5.7A	0959
Totalizer 1.1B	0852	Totalizer 2.7B	0888	Totalizer 4.1B	0924	Totalizer 5.7B	0960
Totalizer 1.2A	0853	Totalizer 2.8A	0889	Totalizer 4.2A	0925	Totalizer 5.8A	0961
Totalizer 1.2B	0854	Totalizer 2.8B	0890	Totalizer 4.2B	0926	Totalizer 5.8B	0962
Totalizer 1.3A	0855	Totalizer 2.9A	0891	Totalizer 4.3A	0927	Totalizer 5.9A	0963
Totalizer 1.3B	0856	Totalizer 2.9B	0892	Totalizer 4.3B	0928	Totalizer 5.9B	0964
Totalizer 1.4A	0857	Totalizer 2.10A	0893	Totalizer 4.4A	0929	Totalizer 5.10A	0965
Totalizer 1.4B	0858	Totalizer 2.10B	0894	Totalizer 4.4B	0930	Totalizer 5.10B	0966
Totalizer 1.5A	0859	Totalizer 2.11A	0895	Totalizer 4.5A	0931	Totalizer 5.11A	0967
Totalizer 1.5B	0860	Totalizer 2.11B	0896	Totalizer 4.5B	0932	Totalizer 5.11B	0968
Totalizer 1.6A	0861	Totalizer 2.12A	0897	Totalizer 4.6A	0933	Totalizer 5.12A	0969
Totalizer 1.6B	0862	Totalizer 2.12B	0898	Totalizer 4.6B	0934	Totalizer 5.12B	0970
Totalizer 1.7A	0863	Totalizer 3.1A	0899	Totalizer 4.7A	0935	Totalizer 6.1A	0971
Totalizer 1.7B	0864	Totalizer 3.1B	0900	Totalizer 4.7B	0936	Totalizer 6.1B	0972
Totalizer 1.8A	0865	Totalizer 3.2A	0901	Totalizer 4.8A	0937	Totalizer 6.2A	0973
Totalizer 1.8B	0866	Totalizer 3.2B	0902	Totalizer 4.8B	0938	Totalizer 6.2B	0974
Totalizer 1.9A	0867	Totalizer 3.3A	0903	Totalizer 4.9A	0939	Totalizer 6.3A	0975
Totalizer 1.9B	0868	Totalizer 3.3B	0904	Totalizer 4.9B	0940	Totalizer 6.3B	0976
Totalizer 1.10A	0869	Totalizer 3.4A	0905	Totalizer 4.10A	0941	Totalizer 6.4A	0977
Totalizer 1.10B	0870	Totalizer 3.4B	0906	Totalizer 4.10B	0942	Totalizer 6.4B	0978
Totalizer 1.11A	0871	Totalizer 3.5A	0907	Totalizer 4.11A	0943	Totalizer 6.5A	0979
Totalizer 1.11B	0872	Totalizer 3.5B	0908	Totalizer 4.11B	0944	Totalizer 6.5B	0980
Totalizer 1.12A	0873	Totalizer 3.6A	0909	Totalizer 4.12A	0945	Totalizer 6.6A	0981
Totalizer 1.12B	0874	Totalizer 3.6B	0910	Totalizer 4.12B	0946	Totalizer 6.6B	0982
Totalizer 2.1A	0875	Totalizer 3.7A	0911	Totalizer 5.1A	0947	Totalizer 6.7A	0983
Totalizer 2.1B	0876	Totalizer 3.7B	0912	Totalizer 5.1B	0948	Totalizer 6.7B	0984
Totalizer 2.2A	0877	Totalizer 3.8A	0913	Totalizer 5.2A	0949	Totalizer 6.8A	0985
Totalizer 2.2B	0878	Totalizer 3.8B	0914	Totalizer 5.2B	0950	Totalizer 6.8B	0986
Totalizer 2.3A	0879	Totalizer 3.9A	0915	Totalizer 5.3A	0951	Totalizer 6.9A	0987
Totalizer 2.3B	0880	Totalizer 3.9B	0916	Totalizer 5.3B	0952	Totalizer 6.9B	0988
Totalizer 2.4A	0881	Totalizer 3.10A	0917	Totalizer 5.4A	0953	Totalizer 6.10A	0989
Totalizer 2.4B	0882	Totalizer 3.10B	0918	Totalizer 5.4B	0954	Totalizer 6.10B	0990
Totalizer 2.5A	0883	Totalizer 3.11A	0919	Totalizer 5.5A	0955	Totalizer 6.11A	0991
Totalizer 2.5B	0884	Totalizer 3.11B	0920	Totalizer 5.5B	0956	Totalizer 6.11B	0992
Totalizer 2.6A	0885	Totalizer 3.12A	0921	Totalizer 5.6A	0957	Totalizer 6.12A	0993
Totalizer 2.6B	0886	Totalizer 3.12B	0922	Totalizer 5.6B	0958	Totalizer 6.12B	0994

Table 5.6 Totalizer Stop/Go

Read Access				Write Access			
0 = > 2s since last reset				0 = No effect			
1 = < 2s since last reset				1 = Reset			
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Totalizer 1.1A	1001	Totalizer 2.7A	1037	Totalizer 4.1A	1073	Totalizer 5.7A	1109
Totalizer 1.1B	1002	Totalizer 2.7B	1038	Totalizer 4.1B	1074	Totalizer 5.7B	1110
Totalizer 1.2A	1003	Totalizer 2.8A	1039	Totalizer 4.2A	1075	Totalizer 5.8A	1111
Totalizer 1.2B	1004	Totalizer 2.8B	1040	Totalizer 4.2B	1076	Totalizer 5.8B	1112
Totalizer 1.3A	1005	Totalizer 2.9A	1041	Totalizer 4.3A	1077	Totalizer 5.9A	1113
Totalizer 1.3B	1006	Totalizer 2.9B	1042	Totalizer 4.3B	1078	Totalizer 5.9B	1114
Totalizer 1.4A	1007	Totalizer 2.10A	1043	Totalizer 4.4A	1079	Totalizer 5.10A	1115
Totalizer 1.4B	1008	Totalizer 2.10B	1044	Totalizer 4.4B	1080	Totalizer 5.10B	1116
Totalizer 1.5A	1009	Totalizer 2.11A	1045	Totalizer 4.5A	1081	Totalizer 5.11A	1117
Totalizer 1.5B	1010	Totalizer 2.11B	1046	Totalizer 4.5B	1082	Totalizer 5.11B	1118
Totalizer 1.6A	1011	Totalizer 2.12A	1047	Totalizer 4.6A	1083	Totalizer 5.12A	1119
Totalizer 1.6B	1012	Totalizer 2.12B	1048	Totalizer 4.6B	1084	Totalizer 5.12B	1120
Totalizer 1.7A	1013	Totalizer 3.1A	1049	Totalizer 4.7A	1085	Totalizer 6.1A	1121
Totalizer 1.7B	1014	Totalizer 3.1B	1050	Totalizer 4.7B	1086	Totalizer 6.1B	1122
Totalizer 1.8A	1015	Totalizer 3.2A	1051	Totalizer 4.8A	1087	Totalizer 6.2A	1123
Totalizer 1.8B	1016	Totalizer 3.2B	1052	Totalizer 4.8B	1088	Totalizer 6.2B	1124
Totalizer 1.9A	1017	Totalizer 3.3A	1053	Totalizer 4.9A	1089	Totalizer 6.3A	1125
Totalizer 1.9B	1018	Totalizer 3.3B	1054	Totalizer 4.9B	1090	Totalizer 6.3B	1126
Totalizer 1.10A	1019	Totalizer 3.4A	1055	Totalizer 4.10A	1091	Totalizer 6.4A	1127
Totalizer 1.10B	1020	Totalizer 3.4B	1056	Totalizer 4.10B	1092	Totalizer 6.4B	1128
Totalizer 1.11A	1021	Totalizer 3.5A	1057	Totalizer 4.11A	1093	Totalizer 6.5A	1129
Totalizer 1.11B	1022	Totalizer 3.5B	1058	Totalizer 4.11B	1094	Totalizer 6.5B	1130
Totalizer 1.12A	1023	Totalizer 3.6A	1059	Totalizer 4.12A	1095	Totalizer 6.6A	1131
Totalizer 1.12B	1024	Totalizer 3.6B	1060	Totalizer 4.12B	1096	Totalizer 6.6B	1132
Totalizer 2.1A	1025	Totalizer 3.7A	1061	Totalizer 5.1A	1097	Totalizer 6.7A	1133
Totalizer 2.1B	1026	Totalizer 3.7B	1062	Totalizer 5.1B	1098	Totalizer 6.7B	1134
Totalizer 2.2A	1027	Totalizer 3.8A	1063	Totalizer 5.2A	1099	Totalizer 6.8A	1135
Totalizer 2.2B	1028	Totalizer 3.8B	1064	Totalizer 5.2B	1100	Totalizer 6.8B	1136
Totalizer 2.3A	1029	Totalizer 3.9A	1065	Totalizer 5.3A	1101	Totalizer 6.9A	1137
Totalizer 2.3B	1030	Totalizer 3.9B	1066	Totalizer 5.3B	1102	Totalizer 6.9B	1138
Totalizer 2.4A	1031	Totalizer 3.10A	1067	Totalizer 5.4A	1103	Totalizer 6.10A	1139
Totalizer 2.4B	1032	Totalizer 3.10B	1068	Totalizer 5.4B	1104	Totalizer 6.10B	1140
Totalizer 2.5A	1033	Totalizer 3.11A	1069	Totalizer 5.5A	1105	Totalizer 6.11A	1141
Totalizer 2.5B	1034	Totalizer 3.11B	1070	Totalizer 5.5B	1106	Totalizer 6.11B	1142
Totalizer 2.6A	1035	Totalizer 3.12A	1071	Totalizer 5.6A	1107	Totalizer 6.12A	1143
Totalizer 2.6B	1036	Totalizer 3.12B	1072	Totalizer 5.6B	1108	Totalizer 6.12B	1144

Table 5.7 Totalizer Reset

Read Access				Write Access		Read only	
0 = Inactive							
1 = Active							
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Totalizer 1.1A	1151	Totalizer 2.7A	1187	Totalizer 4.1A	1223	Totalizer 5.7A	1259
Totalizer 1.1B	1152	Totalizer 2.7B	1188	Totalizer 4.1B	1224	Totalizer 5.7B	1260
Totalizer 1.2A	1153	Totalizer 2.8A	1189	Totalizer 4.2A	1225	Totalizer 5.8A	1261
Totalizer 1.2B	1154	Totalizer 2.8B	1190	Totalizer 4.2B	1226	Totalizer 5.8B	1262
Totalizer 1.3A	1155	Totalizer 2.9A	1191	Totalizer 4.3A	1227	Totalizer 5.9A	1263
Totalizer 1.3B	1156	Totalizer 2.9B	1192	Totalizer 4.3B	1228	Totalizer 5.9B	1264
Totalizer 1.4A	1157	Totalizer 2.10A	1193	Totalizer 4.4A	1229	Totalizer 5.10A	1265
Totalizer 1.4B	1158	Totalizer 2.10B	1194	Totalizer 4.4B	1230	Totalizer 5.10B	1266
Totalizer 1.5A	1159	Totalizer 2.11A	1195	Totalizer 4.5A	1231	Totalizer 5.11A	1267
Totalizer 1.5B	1160	Totalizer 2.11B	1196	Totalizer 4.5B	1232	Totalizer 5.11B	1268
Totalizer 1.6A	1161	Totalizer 2.12A	1197	Totalizer 4.6A	1233	Totalizer 5.12A	1269
Totalizer 1.6B	1162	Totalizer 2.12B	1198	Totalizer 4.6B	1234	Totalizer 5.12B	1270
Totalizer 1.7A	1163	Totalizer 3.1A	1199	Totalizer 4.7A	1235	Totalizer 6.1A	1271
Totalizer 1.7B	1164	Totalizer 3.1B	1200	Totalizer 4.7B	1236	Totalizer 6.1B	1272
Totalizer 1.8A	1165	Totalizer 3.2A	1201	Totalizer 4.8A	1237	Totalizer 6.2A	1273
Totalizer 1.8B	1166	Totalizer 3.2B	1202	Totalizer 4.8B	1238	Totalizer 6.2B	1274
Totalizer 1.9A	1167	Totalizer 3.3A	1203	Totalizer 4.9A	1239	Totalizer 6.3A	1275
Totalizer 1.9B	1168	Totalizer 3.3B	1204	Totalizer 4.9B	1240	Totalizer 6.3B	1276
Totalizer 1.10A	1169	Totalizer 3.4A	1205	Totalizer 4.10A	1241	Totalizer 6.4A	1277
Totalizer 1.10B	1170	Totalizer 3.4B	1206	Totalizer 4.10B	1242	Totalizer 6.4B	1278
Totalizer 1.11A	1171	Totalizer 3.5A	1207	Totalizer 4.11A	1243	Totalizer 6.5A	1279
Totalizer 1.11B	1172	Totalizer 3.5B	1208	Totalizer 4.11B	1244	Totalizer 6.5B	1280
Totalizer 1.12A	1173	Totalizer 3.6A	1209	Totalizer 4.12A	1245	Totalizer 6.6A	1281
Totalizer 1.12B	1174	Totalizer 3.6B	1210	Totalizer 4.12B	1246	Totalizer 6.6B	1282
Totalizer 2.1A	1175	Totalizer 3.7A	1211	Totalizer 5.1A	1247	Totalizer 6.7A	1283
Totalizer 2.1B	1176	Totalizer 3.7B	1212	Totalizer 5.1B	1248	Totalizer 6.7B	1284
Totalizer 2.2A	1177	Totalizer 3.8A	1213	Totalizer 5.2A	1249	Totalizer 6.8A	1285
Totalizer 2.2B	1178	Totalizer 3.8B	1214	Totalizer 5.2B	1250	Totalizer 6.8B	1286
Totalizer 2.3A	1179	Totalizer 3.9A	1215	Totalizer 5.3A	1251	Totalizer 6.9A	1287
Totalizer 2.3B	1180	Totalizer 3.9B	1216	Totalizer 5.3B	1252	Totalizer 6.9B	1288
Totalizer 2.4A	1181	Totalizer 3.10A	1217	Totalizer 5.4A	1253	Totalizer 6.10A	1289
Totalizer 2.4B	1182	Totalizer 3.10B	1218	Totalizer 5.4B	1254	Totalizer 6.10B	1290
Totalizer 2.5A	1183	Totalizer 3.11A	1219	Totalizer 5.5A	1255	Totalizer 6.11A	1291
Totalizer 2.5B	1184	Totalizer 3.11B	1220	Totalizer 5.5B	1256	Totalizer 6.11B	1292
Totalizer 2.6A	1185	Totalizer 3.12A	1221	Totalizer 5.6A	1257	Totalizer 6.12A	1293
Totalizer 2.6B	1186	Totalizer 3.12B	1222	Totalizer 5.6B	1258	Totalizer 6.12B	1294

Table 5.8 Totalizer Wrap

Read Access				Write Access		Read only	
0 = Inactive							
1 = Active							
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Totalizer 1.1A	1301	Totalizer 2.7A	1337	Totalizer 4.1A	1373	Totalizer 5.7A	1409
Totalizer 1.1B	1302	Totalizer 2.7B	1338	Totalizer 4.1B	1374	Totalizer 5.7B	1410
Totalizer 1.2A	1303	Totalizer 2.8A	1339	Totalizer 4.2A	1375	Totalizer 5.8A	1411
Totalizer 1.2B	1304	Totalizer 2.8B	1340	Totalizer 4.2B	1376	Totalizer 5.8B	1412
Totalizer 1.3A	1305	Totalizer 2.9A	1341	Totalizer 4.3A	1377	Totalizer 5.9A	1413
Totalizer 1.3B	1306	Totalizer 2.9B	1342	Totalizer 4.3B	1378	Totalizer 5.9B	1414
Totalizer 1.4A	1307	Totalizer 2.10A	1343	Totalizer 4.4A	1379	Totalizer 5.10A	1415
Totalizer 1.4B	1308	Totalizer 2.10B	1344	Totalizer 4.4B	1380	Totalizer 5.10B	1416
Totalizer 1.5A	1309	Totalizer 2.11A	1345	Totalizer 4.5A	1381	Totalizer 5.11A	1417
Totalizer 1.5B	1310	Totalizer 2.11B	1346	Totalizer 4.5B	1382	Totalizer 5.11B	1418
Totalizer 1.6A	1311	Totalizer 2.12A	1347	Totalizer 4.6A	1383	Totalizer 5.12A	1419
Totalizer 1.6B	1312	Totalizer 2.12B	1348	Totalizer 4.6B	1384	Totalizer 5.12B	1420
Totalizer 1.7A	1313	Totalizer 3.1A	1349	Totalizer 4.7A	1385	Totalizer 6.1A	1421
Totalizer 1.7B	1314	Totalizer 3.1B	1350	Totalizer 4.7B	1386	Totalizer 6.1B	1422
Totalizer 1.8A	1315	Totalizer 3.2A	1351	Totalizer 4.8A	1387	Totalizer 6.2A	1423
Totalizer 1.8B	1316	Totalizer 3.2B	1352	Totalizer 4.8B	1388	Totalizer 6.2B	1424
Totalizer 1.9A	1317	Totalizer 3.3A	1353	Totalizer 4.9A	1389	Totalizer 6.3A	1425
Totalizer 1.9B	1318	Totalizer 3.3B	1354	Totalizer 4.9B	1390	Totalizer 6.3B	1426
Totalizer 1.10A	1319	Totalizer 3.4A	1355	Totalizer 4.10A	1391	Totalizer 6.4A	1427
Totalizer 1.10B	1320	Totalizer 3.4B	1356	Totalizer 4.10B	1392	Totalizer 6.4B	1428
Totalizer 1.11A	1321	Totalizer 3.5A	1357	Totalizer 4.11A	1393	Totalizer 6.5A	1429
Totalizer 1.11B	1322	Totalizer 3.5B	1358	Totalizer 4.11B	1394	Totalizer 6.5B	1430
Totalizer 1.12A	1323	Totalizer 3.6A	1359	Totalizer 4.12A	1395	Totalizer 6.6A	1431
Totalizer 1.12B	1324	Totalizer 3.6B	1360	Totalizer 4.12B	1396	Totalizer 6.6B	1432
Totalizer 2.1A	1325	Totalizer 3.7A	1361	Totalizer 5.1A	1397	Totalizer 6.7A	1433
Totalizer 2.1B	1326	Totalizer 3.7B	1362	Totalizer 5.1B	1398	Totalizer 6.7B	1434
Totalizer 2.2A	1327	Totalizer 3.8A	1363	Totalizer 5.2A	1399	Totalizer 6.8A	1435
Totalizer 2.2B	1328	Totalizer 3.8B	1364	Totalizer 5.2B	1400	Totalizer 6.8B	1436
Totalizer 2.3A	1329	Totalizer 3.9A	1365	Totalizer 5.3A	1401	Totalizer 6.9A	1437
Totalizer 2.3B	1330	Totalizer 3.9B	1366	Totalizer 5.3B	1402	Totalizer 6.9B	1438
Totalizer 2.4A	1331	Totalizer 3.10A	1367	Totalizer 5.4A	1403	Totalizer 6.10A	1439
Totalizer 2.4B	1332	Totalizer 3.10B	1368	Totalizer 5.4B	1404	Totalizer 6.10B	1440
Totalizer 2.5A	1333	Totalizer 3.11A	1369	Totalizer 5.5A	1405	Totalizer 6.11A	1441
Totalizer 2.5B	1334	Totalizer 3.11B	1370	Totalizer 5.5B	1406	Totalizer 6.11B	1442
Totalizer 2.6A	1335	Totalizer 3.12A	1371	Totalizer 5.6A	1407	Totalizer 6.12A	1443
Totalizer 2.6B	1336	Totalizer 3.12B	1372	Totalizer 5.6B	1408	Totalizer 6.12B	1444

Table 5.9 Totalizer First Stage Output

Read Access				Write Access		Read only	
0 = OK							
1 = Failed							
Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil	Title	Modbus Coil
Totalizer 1.1A	1451	Totalizer 2.7A	1487	Totalizer 4.1A	1523	Totalizer 5.7A	1559
Totalizer 1.1B	1452	Totalizer 2.7B	1488	Totalizer 4.1B	1524	Totalizer 5.7B	1560
Totalizer 1.2A	1453	Totalizer 2.8A	1489	Totalizer 4.2A	1525	Totalizer 5.8A	1561
Totalizer 1.2B	1454	Totalizer 2.8B	1490	Totalizer 4.2B	1526	Totalizer 5.8B	1562
Totalizer 1.3A	1455	Totalizer 2.9A	1491	Totalizer 4.3A	1527	Totalizer 5.9A	1563
Totalizer 1.3B	1456	Totalizer 2.9B	1492	Totalizer 4.3B	1528	Totalizer 5.9B	1564
Totalizer 1.4A	1457	Totalizer 2.10A	1493	Totalizer 4.4A	1529	Totalizer 5.10A	1565
Totalizer 1.4B	1458	Totalizer 2.10B	1494	Totalizer 4.4B	1530	Totalizer 5.10B	1566
Totalizer 1.5A	1459	Totalizer 2.11A	1495	Totalizer 4.5A	1531	Totalizer 5.11A	1567
Totalizer 1.5B	1460	Totalizer 2.11B	1496	Totalizer 4.5B	1532	Totalizer 5.11B	1568
Totalizer 1.6A	1461	Totalizer 2.12A	1497	Totalizer 4.6A	1533	Totalizer 5.12A	1569
Totalizer 1.6B	1462	Totalizer 2.12B	1498	Totalizer 4.6B	1534	Totalizer 5.12B	1570
Totalizer 1.7A	1463	Totalizer 3.1A	1499	Totalizer 4.7A	1535	Totalizer 6.1A	1571
Totalizer 1.7B	1464	Totalizer 3.1B	1500	Totalizer 4.7B	1536	Totalizer 6.1B	1572
Totalizer 1.8A	1465	Totalizer 3.2A	1501	Totalizer 4.8A	1537	Totalizer 6.2A	1573
Totalizer 1.8B	1466	Totalizer 3.2B	1502	Totalizer 4.8B	1538	Totalizer 6.2B	1574
Totalizer 1.9A	1467	Totalizer 3.3A	1503	Totalizer 4.9A	1539	Totalizer 6.3A	1575
Totalizer 1.9B	1468	Totalizer 3.3B	1504	Totalizer 4.9B	1540	Totalizer 6.3B	1576
Totalizer 1.10A	1469	Totalizer 3.4A	1505	Totalizer 4.10A	1541	Totalizer 6.4A	1577
Totalizer 1.10B	1470	Totalizer 3.4B	1506	Totalizer 4.10B	1542	Totalizer 6.4B	1578
Totalizer 1.11A	1471	Totalizer 3.5A	1507	Totalizer 4.11A	1543	Totalizer 6.5A	1579
Totalizer 1.11B	1472	Totalizer 3.5B	1508	Totalizer 4.11B	1544	Totalizer 6.5B	1580
Totalizer 1.12A	1473	Totalizer 3.6A	1509	Totalizer 4.12A	1545	Totalizer 6.6A	1581
Totalizer 1.12B	1474	Totalizer 3.6B	1510	Totalizer 4.12B	1546	Totalizer 6.6B	1582
Totalizer 2.1A	1475	Totalizer 3.7A	1511	Totalizer 5.1A	1547	Totalizer 6.7A	1583
Totalizer 2.1B	1476	Totalizer 3.7B	1512	Totalizer 5.1B	1548	Totalizer 6.7B	1584
Totalizer 2.2A	1477	Totalizer 3.8A	1513	Totalizer 5.2A	1549	Totalizer 6.8A	1585
Totalizer 2.2B	1478	Totalizer 3.8B	1514	Totalizer 5.2B	1550	Totalizer 6.8B	1586
Totalizer 2.3A	1479	Totalizer 3.9A	1515	Totalizer 5.3A	1551	Totalizer 6.9A	1587
Totalizer 2.3B	1480	Totalizer 3.9B	1516	Totalizer 5.3B	1552	Totalizer 6.9B	1588
Totalizer 2.4A	1481	Totalizer 3.10A	1517	Totalizer 5.4A	1553	Totalizer 6.10A	1589
Totalizer 2.4B	1482	Totalizer 3.10B	1518	Totalizer 5.4B	1554	Totalizer 6.10B	1590
Totalizer 2.5A	1483	Totalizer 3.11A	1519	Totalizer 5.5A	1555	Totalizer 6.11A	1591
Totalizer 2.5B	1484	Totalizer 3.11B	1520	Totalizer 5.5B	1556	Totalizer 6.11B	1592
Totalizer 2.6A	1485	Totalizer 3.12A	1521	Totalizer 5.6A	1557	Totalizer 6.12A	1593
Totalizer 2.6B	1486	Totalizer 3.12B	1522	Totalizer 5.6B	1558	Totalizer 6.12B	1594

Table 5.10 Totalizer Flowrate Fail State

Signal		Channel Number											
		1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12
Analog i/p failure state	R	2001	2021	2041	2061	2081	2101	2121	2141	2161	2181	2201	2221
Alarm A state	R	2002	2022	2042	2062	2082	2102	2122	2142	2162	2182	2202	2222
Alarm B state	R	2003	2023	2043	2063	2083	2103	2123	2143	2163	2183	2203	2223
Alarm C state	R	2004	2024	2044	2064	2084	2104	2124	2144	2164	2184	2204	2224
Alarm D state	R	2005	2025	2045	2065	2085	2105	2125	2145	2165	2185	2205	2225
Alarm A acknowledge	R/W	2006	2026	2046	2066	2086	2106	2126	2146	2166	2186	2206	2226
Alarm B acknowledge	R/W	2007	2027	2047	2067	2087	2107	2127	2147	2167	2187	2207	2227
Alarm C acknowledge	R/W	2008	2028	2048	2068	2088	2108	2128	2148	2168	2188	2208	2228
Alarm D acknowledge	R/W	2009	2029	2049	2069	2089	2109	2129	2149	2169	2189	2209	2229
Totalizer A stop/go	R/W	2010	2030	2050	2070	2090	2110	2130	2150	2170	2190	2210	2230
Totalizer B stop/go	R/W	2011	2031	2051	2071	2091	2111	2131	2151	2171	2191	2211	2231
Totalizer A reset	R/W	2012	2032	2052	2072	2092	2112	2132	2152	2172	2192	2212	2232
Totalizer B reset	R/W	2013	2033	2053	2073	2093	2113	2133	2153	2173	2193	2213	2233
Totalizer A wrap	R	2014	2034	2054	2074	2094	2114	2134	2154	2174	2194	2214	2234
Totalizer B wrap	R	2015	2035	2055	2075	2095	2115	2135	2155	2175	2195	2215	2235
Totalizer A 1st stage	R	2016	2036	2056	2076	2096	2116	2136	2156	2176	2196	2216	2236
Totalizer B 1st stage	R	2017	2037	2057	2077	2097	2117	2137	2157	2177	2197	2217	2237
Totalizer A flowrate failure	R	2018	2038	2058	2078	2098	2118	2138	2158	2178	2198	2218	2238
Totalizer B flowrate failure	R	2019	2039	2059	2079	2099	2119	2139	2159	2179	2199	2219	2239

Table 5.11 Channel Digital Signals (Process Group 1)

Signal		Channel Number											
		2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.10	2.11	2.12
Analog i/p failure state	R	2241	2261	2281	2301	2321	2341	2361	2381	2401	2421	2441	2461
Alarm A state	R	2242	2262	2282	2302	2322	2342	2362	2382	2402	2422	2442	2462
Alarm B state	R	2243	2263	2283	2303	2323	2343	2363	2383	2403	2423	2443	2463
Alarm C state	R	2244	2264	2284	2304	2324	2344	2364	2384	2404	2424	2444	2464
Alarm D state	R	2245	2265	2285	2305	2325	2345	2365	2385	2405	2425	2445	2465
Alarm A acknowledge	R/W	2246	2266	2286	2306	2326	2346	2366	2386	2406	2426	2446	2466
Alarm B acknowledge	R/W	2247	2267	2287	2307	2327	2347	2367	2387	2407	2427	2447	2467
Alarm C acknowledge	R/W	2248	2268	2288	2308	2328	2348	2368	2388	2408	2428	2448	2468
Alarm D acknowledge	R/W	2249	2269	2289	2309	2329	2349	2369	2389	2409	2429	2449	2469
Totalizer A stop/go	R/W	2250	2270	2290	2310	2330	2350	2370	2390	2410	2430	2450	2470
Totalizer B stop/go	R/W	2251	2271	2291	2311	2331	2351	2371	2391	2411	2431	2451	2471
Totalizer A reset	R/W	2252	2272	2292	2312	2332	2352	2372	2392	2412	2432	2452	2472
Totalizer B reset	R/W	2253	2273	2293	2313	2333	2353	2373	2393	2413	2433	2453	2473
Totalizer A wrap	R	2254	2274	2294	2314	2334	2354	2374	2394	2414	2434	2454	2474
Totalizer B wrap	R	2255	2275	2295	2315	2335	2355	2375	2395	2415	2435	2455	2475
Totalizer A 1st stage	R	2256	2276	2296	2316	2336	2356	2376	2396	2416	2436	2456	2476
Totalizer B 1st stage	R	2257	2277	2297	2317	2337	2357	2377	2397	2417	2437	2457	2477
Totalizer A flowrate failure	R	2258	2278	2298	2318	2338	2358	2378	2398	2418	2438	2458	2478
Totalizer B flowrate failure	R	2259	2279	2299	2319	2339	2359	2379	2399	2419	2439	2459	2479

Table 5.12 Channel Digital Signals (Process Group 2)

Signal		Channel Number											
		3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11	3.12
Analog i/p failure state	R	2481	2501	2521	2541	2561	2581	2601	2621	2641	2661	2681	2701
Alarm A state	R	2482	2502	2522	2542	2562	2582	2602	2622	2642	2662	2682	2702
Alarm B state	R	2483	2503	2523	2543	2563	2583	2603	2623	2643	2663	2683	2703
Alarm C state	R	2484	2504	2524	2544	2564	2584	2604	2624	2644	2664	2684	2704
Alarm D state	R	2485	2505	2525	2545	2565	2585	2605	2625	2645	2665	2685	2705
Alarm A acknowledge	R/W	2486	2506	2526	2546	2566	2586	2606	2626	2646	2666	2686	2706
Alarm B acknowledge	R/W	2487	2507	2527	2547	2567	2587	2607	2627	2647	2667	2687	2707
Alarm C acknowledge	R/W	2488	2508	2528	2548	2568	2588	2608	2628	2648	2668	2688	2708
Alarm D acknowledge	R/W	2489	2509	2529	2549	2569	2589	2609	2629	2649	2669	2689	2709
Totalizer A stop/go	R/W	2490	2510	2530	2550	2570	2590	2610	2630	2650	2670	2690	2710
Totalizer B stop/go	R/W	2491	2511	2531	2551	2571	2591	2611	2631	2651	2671	2691	2711
Totalizer A reset	R/W	2492	2512	2532	2552	2572	2592	2612	2632	2652	2672	2692	2712
Totalizer B reset	R/W	2493	2513	2533	2553	2573	2593	2613	2633	2653	2673	2693	2713
Totalizer A wrap	R	2494	2514	2534	2554	2574	2594	2614	2634	2654	2674	2694	2714
Totalizer B wrap	R	2495	2515	2535	2555	2575	2595	2615	2635	2655	2675	2695	2715
Totalizer A 1st stage	R	2496	2516	2536	2556	2576	2596	2616	2636	2656	2676	2696	2716
Totalizer B 1st stage	R	2497	2517	2537	2557	2577	2597	2617	2637	2657	2677	2697	2717
Totalizer A flowrate failure	R	2498	2518	2538	2558	2578	2598	2618	2638	2658	2678	2698	2718
Totalizer B flowrate failure	R	2499	2519	2539	2559	2579	2599	2619	2639	2659	2679	2699	2719

Table 5.13 Channel Digital Signals (Process Group 3)

Signal		Channel Number											
		4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11	4.12
Analog i/p failure state	R	2721	2741	2761	2781	2801	2821	2841	2861	2881	2901	2921	2941
Alarm A state	R	2722	2742	2762	2782	2802	2822	2842	2862	2882	2902	2922	2942
Alarm B state	R	2723	2743	2763	2783	2803	2823	2843	2863	2883	2903	2923	2943
Alarm C state	R	2724	2744	2764	2784	2804	2824	2844	2864	2884	2904	2924	2944
Alarm D state	R	2725	2745	2765	2785	2805	2825	2845	2865	2885	2905	2925	2945
Alarm A acknowledge	R/W	2726	2746	2766	2786	2806	2826	2846	2866	2886	2906	2926	2946
Alarm B acknowledge	R/W	2727	2747	2767	2787	2807	2827	2847	2867	2887	2907	2927	2947
Alarm C acknowledge	R/W	2728	2748	2768	2788	2808	2828	2848	2868	2888	2908	2928	2948
Alarm D acknowledge	R/W	2729	2749	2769	2789	2809	2829	2849	2869	2889	2909	2929	2949
Totalizer A stop/go	R/W	2730	2750	2770	2790	2810	2830	2850	2870	2890	2910	2930	2950
Totalizer B stop/go	R/W	2731	2751	2771	2791	2811	2831	2851	2871	2891	2911	2931	2951
Totalizer A reset	R/W	2732	2752	2772	2792	2812	2832	2852	2872	2892	2912	2932	2952
Totalizer B reset	R/W	2733	2753	2773	2793	2813	2833	2853	2873	2893	2913	2933	2953
Totalizer A wrap	R	2734	2754	2774	2794	2814	2834	2854	2874	2894	2914	2934	2954
Totalizer B wrap	R	2735	2755	2775	2795	2815	2835	2855	2875	2895	2915	2935	2955
Totalizer A 1st stage	R	2736	2756	2776	2796	2816	2836	2856	2876	2896	2916	2936	2956
Totalizer B 1st stage	R	2737	2757	2777	2797	2817	2837	2857	2877	2897	2917	2937	2957
Totalizer A flowrate failure	R	2738	2758	2778	2798	2818	2838	2858	2878	2898	2918	2938	2958
Totalizer B flowrate failure	R	2739	2759	2779	2799	2819	2839	2859	2879	2899	2919	2939	2959

Table 5.14 Channel Digital Signals (Process Group 4)

Signal		Channel Number											
		5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	5.10	5.11	5.12
Analog i/p failure state	R	2961	2981	3001	3021	3041	3061	3081	3101	3121	3141	3161	3181
Alarm A state	R	2962	2982	3002	3022	3042	3062	3082	3102	3122	3142	3162	3182
Alarm B state	R	2963	2983	3003	3023	3043	3063	3083	3103	3123	3143	3163	3183
Alarm C state	R	2964	2984	3004	3024	3044	3064	3084	3104	3124	3144	3164	3184
Alarm D state	R	2965	2985	3005	3025	3045	3065	3085	3105	3125	3145	3165	3185
Alarm A acknowledge	R/W	2966	2986	3006	3026	3046	3066	3086	3106	3126	3146	3166	3186
Alarm B acknowledge	R/W	2967	2987	3007	3027	3047	3067	3087	3107	3127	3147	3167	3187
Alarm C acknowledge	R/W	2968	2988	3008	3028	3048	3068	3088	3108	3128	3148	3168	3188
Alarm D acknowledge	R/W	2969	2989	3009	3029	3049	3069	3089	3109	3129	3149	3169	3189
Totalizer A stop/go	R/W	2970	2990	3010	3030	3050	3070	3090	3110	3130	3150	3170	3190
Totalizer B stop/go	R/W	2971	2991	3011	3031	3051	3071	3091	3111	3131	3151	3171	3191
Totalizer A reset	R/W	2972	2992	3012	3032	3052	3072	3092	3112	3132	3152	3172	3192
Totalizer B reset	R/W	2973	2993	3013	3033	3053	3073	3093	3113	3133	3153	3173	3193
Totalizer A wrap	R	2974	2994	3014	3034	3054	3074	3094	3114	3134	3154	3174	3194
Totalizer B wrap	R	2975	2995	3015	3035	3055	3075	3095	3115	3135	3155	3175	3195
Totalizer A 1st stage	R	2976	2996	3016	3036	3056	3076	3096	3116	3136	3156	3176	3196
Totalizer B 1st stage	R	2977	2997	3017	3037	3057	3077	3097	3117	3137	3157	3177	3197
Totalizer A flowrate failure	R	2978	2998	3018	3038	3058	3078	3098	3118	3138	3158	3178	3198
Totalizer B flowrate failure	R	2979	2999	3019	3039	3059	3079	3099	3119	3139	3159	3179	3199

Table 5.15 Channel Digital Signals (Process Group 5)

Signal		Channel Number											
		6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10	6.11	6.12
Analog i/p failure state	R	3201	3221	3241	3261	3281	3301	3321	3341	3361	3381	3401	3421
Alarm A state	R	3202	3222	3242	3262	3282	3302	3322	3342	3362	3382	3402	3422
Alarm B state	R	3203	3223	3243	3263	3283	3303	3323	3343	3363	3383	3403	3423
Alarm C state	R	3204	3224	3244	3264	3284	3304	3324	3344	3364	3384	3404	3424
Alarm D state	R	3205	3225	3245	3265	3285	3305	3325	3345	3365	3385	3405	3425
Alarm A acknowledge	R/W	3206	3226	3246	3266	3286	3306	3326	3346	3366	3386	3406	3426
Alarm B acknowledge	R/W	3207	3227	3247	3267	3287	3307	3327	3347	3367	3387	3407	3427
Alarm C acknowledge	R/W	3208	3228	3248	3268	3288	3308	3328	3348	3368	3388	3408	3428
Alarm D acknowledge	R/W	3209	3229	3249	3269	3289	3309	3329	3349	3369	3389	3409	3429
Totalizer A stop/go	R/W	3210	3230	3250	3270	3290	3310	3330	3350	3370	3390	3410	3430
Totalizer B stop/go	R/W	3211	3231	3251	3271	3291	3311	3331	3351	3371	3391	3411	3431
Totalizer A reset	R/W	3212	3232	3252	3272	3292	3312	3332	3352	3372	3392	3412	3432
Totalizer B reset	R/W	3213	3233	3253	3273	3293	3313	3333	3353	3373	3393	3413	3433
Totalizer A wrap	R	3214	3234	3254	3274	3294	3314	3334	3354	3374	3394	3414	3434
Totalizer B wrap	R	3215	3235	3255	3275	3295	3315	3335	3355	3375	3395	3415	3435
Totalizer A 1st stage	R	3216	3236	3256	3276	3296	3316	3336	3356	3376	3396	3416	3436
Totalizer B 1st stage	R	3217	3237	3257	3277	3297	3317	3337	3357	3377	3397	3417	3437
Totalizer A flowrate failure	R	3218	3238	3258	3278	3298	3318	3338	3358	3378	3398	3418	3438
Totalizer B flowrate failure	R	3219	3239	3259	3279	3299	3319	3339	3359	3379	3399	3419	3439

Table 5.16 Channel Digital Signals (Process Group 6)

5.2 Operating Mode Modbus Registers

Tables 5.17 to 5.38 detail the contents of the Modbus registers accessible while the instrument is in the operating mode.

Two data types are used:

- 32-bit single precision floating point data in IEEE format
- 64-bit double precision floating point data in IEEE format

Note. When writing to a parameter that occupies more than one register position then all registers relating to that parameter **MUST** be written to as part of a multiple register write. If this is not achieved a NAK exception response is issued. Individual registers can be read without causing an exception response.

When accessing a parameter that occupies more than one register position, the lowest numbered register contains the most significant data.

Analog Inputs	Modbus Registers Read only, 32-bit single precision floating point
A1	0001 and 0002
A2	0003 and 0004
A3	0005 and 0006
A4	0007 and 0008
A5	0009 and 0010
A6	0011 and 0012
B1	0013 and 0014
B2	0015 and 0016
B3	0017 and 0018
B4	0019 and 0020
B5	0021 and 0022
B6	0023 and 0024
C1	0025 and 0026
C2	0027 and 0028
C3	0029 and 0030
C4	0031 and 0032
C5	0033 and 0034
C6	0035 and 0036
D1	0037 and 0038
D2	0039 and 0040
D3	0041 and 0042
D4	0043 and 0044
D5	0045 and 0046
D6	0047 and 0048
E1	0049 and 0050
E2	0051 and 0052
E3	0053 and 0054
E4	0055 and 0056
E5	0057 and 0058
E6	0059 and 0060
F1	0061 and 0062
F2	0063 and 0064
F3	0065 and 0066
F4	0067 and 0068
F5	0069 and 0070
F6	0071 and 0072

Table 5.17 Analog Inputs

32-bit single precision floating point				Read: -999 to 9999			
				Write: -999 to 9999			
Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers
Alarm 1.1A	0101 and 0102	Alarm 1.10A	0173 and 0174	Alarm 2.7A	0245 and 0246	Alarm 3.4A	0317 and 0318
Alarm 1.1B	0103 and 0104	Alarm 1.10B	0175 and 0176	Alarm 2.7B	0247 and 0248	Alarm 3.4B	0319 and 0320
Alarm 1.1C	0105 and 0106	Alarm 1.10C	0177 and 0178	Alarm 2.7C	0249 and 0250	Alarm 3.4C	0321 and 0322
Alarm 1.1D	0107 and 0108	Alarm 1.10D	0179 and 0180	Alarm 2.7D	0251 and 0252	Alarm 3.4D	0323 and 0324
Alarm 1.2A	0109 and 0110	Alarm 1.11A	0181 and 0182	Alarm 2.8A	0253 and 0254	Alarm 3.5A	0325 and 0326
Alarm 1.2B	0111 and 0112	Alarm 1.11B	0183 and 0184	Alarm 2.8B	0255 and 0256	Alarm 3.5B	0327 and 0328
Alarm 1.2C	0113 and 0114	Alarm 1.11C	0185 and 0186	Alarm 2.8C	0257 and 0258	Alarm 3.5C	0329 and 0330
Alarm 1.2D	0115 and 0116	Alarm 1.11D	0187 and 0188	Alarm 2.8D	0259 and 0260	Alarm 3.5D	0331 and 0332
Alarm 1.3A	0117 and 0118	Alarm 1.12A	0189 and 0190	Alarm 2.9A	0261 and 0262	Alarm 3.6A	0333 and 0334
Alarm 1.3B	0119 and 0120	Alarm 1.12B	0191 and 0192	Alarm 2.9B	0263 and 0264	Alarm 3.6B	0335 and 0336
Alarm 1.3C	0121 and 0122	Alarm 1.12C	0193 and 0194	Alarm 2.9C	0265 and 0266	Alarm 3.6C	0337 and 0338
Alarm 1.3D	0123 and 0124	Alarm 1.12D	0195 and 0196	Alarm 2.9D	0267 and 0268	Alarm 3.6D	0339 and 0340
Alarm 1.4A	0125 and 0126	Alarm 2.1A	0197 and 0198	Alarm 2.10A	0269 and 0270	Alarm 3.7A	0341 and 0342
Alarm 1.4B	0127 and 0128	Alarm 2.1B	0199 and 0200	Alarm 2.10B	0271 and 0272	Alarm 3.7B	0343 and 0344
Alarm 1.4C	0129 and 0130	Alarm 2.1C	0201 and 0202	Alarm 2.10C	0273 and 0274	Alarm 3.7C	0345 and 0346
Alarm 1.4D	0131 and 0132	Alarm 2.1D	0203 and 0204	Alarm 2.10D	0275 and 0276	Alarm 3.7D	0347 and 0348
Alarm 1.5A	0133 and 0134	Alarm 2.2A	0205 and 0206	Alarm 2.11A	0277 and 0278	Alarm 3.8A	0349 and 0350
Alarm 1.5B	0135 and 0136	Alarm 2.2B	0207 and 0208	Alarm 2.11B	0279 and 0280	Alarm 3.8B	0351 and 0352
Alarm 1.5C	0137 and 0138	Alarm 2.2C	0209 and 0210	Alarm 2.11C	0281 and 0282	Alarm 3.8C	0353 and 0354
Alarm 1.5D	0139 and 0140	Alarm 2.2D	0211 and 0212	Alarm 2.11D	0283 and 0284	Alarm 3.8D	0355 and 0356
Alarm 1.6A	0141 and 0142	Alarm 2.3A	0213 and 0214	Alarm 2.12A	0285 and 0286	Alarm 3.9A	0357 and 0358
Alarm 1.6B	0143 and 0144	Alarm 2.3B	0215 and 0216	Alarm 2.12B	0287 and 0288	Alarm 3.9B	0359 and 0360
Alarm 1.6C	0145 and 0146	Alarm 2.3C	0217 and 0218	Alarm 2.12C	0289 and 0290	Alarm 3.9C	0361 and 0362
Alarm 1.6D	0147 and 0148	Alarm 2.3D	0219 and 0220	Alarm 2.12D	0291 and 0292	Alarm 3.9D	0363 and 0364
Alarm 1.7A	0149 and 0150	Alarm 2.4A	0221 and 0222	Alarm 3.1A	0293 and 0294	Alarm 3.10A	0365 and 0366
Alarm 1.7B	0151 and 0152	Alarm 2.4B	0223 and 0224	Alarm 3.1B	0295 and 0296	Alarm 3.10B	0367 and 0368
Alarm 1.7C	0153 and 0154	Alarm 2.4C	0225 and 0226	Alarm 3.1C	0297 and 0298	Alarm 3.10C	0369 and 0370
Alarm 1.7D	0155 and 0156	Alarm 2.4D	0227 and 0228	Alarm 3.1D	0299 and 0300	Alarm 3.10D	0371 and 0372
Alarm 1.8A	0157 and 0158	Alarm 2.5A	0229 and 0230	Alarm 3.2A	0301 and 0302	Alarm 3.11A	0373 and 0374
Alarm 1.8B	0159 and 0160	Alarm 2.5B	0231 and 0232	Alarm 3.2B	0303 and 0304	Alarm 3.11B	0375 and 0376
Alarm 1.8C	0161 and 0162	Alarm 2.5C	0233 and 0234	Alarm 3.2C	0305 and 0306	Alarm 3.11C	0377 and 0378
Alarm 1.8D	0163 and 0164	Alarm 2.5D	0235 and 0236	Alarm 3.2D	0307 and 0308	Alarm 3.11D	0379 and 0380
Alarm 1.9A	0165 and 0166	Alarm 2.6A	0237 and 0238	Alarm 3.3A	0309 and 0310	Alarm 3.12A	0381 and 0382
Alarm 1.9B	0167 and 0168	Alarm 2.6B	0239 and 0240	Alarm 3.3B	0311 and 0312	Alarm 3.12B	0383 and 0384
Alarm 1.9C	0169 and 0170	Alarm 2.6C	0241 and 0242	Alarm 3.3C	0313 and 0314	Alarm 3.12C	0385 and 0386
Alarm 1.9D	0171 and 0172	Alarm 2.6D	0243 and 0244	Alarm 3.3D	0315 and 0316	Alarm 3.12D	0387 and 0388

Table 5.18 Alarm Trip Levels

32-bit single precision floating point				Read: -999 to 9999			
				Write: -999 to 9999			
Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers	Alarm Name	Trip Point Registers
Alarm 4.1A	0389 and 0390	Alarm 4.10A	0461 and 0462	Alarm 5.7A	0533 and 0534	Alarm 6.4A	0605 and 0606
Alarm 4.1B	0391 and 0392	Alarm 4.10B	0463 and 0464	Alarm 5.7B	0535 and 0536	Alarm 6.4B	0607 and 0608
Alarm 4.1C	0393 and 0394	Alarm 4.10C	0465 and 0466	Alarm 5.7C	0537 and 0538	Alarm 6.4C	0609 and 0610
Alarm 4.1D	0395 and 0396	Alarm 4.10D	0467 and 0468	Alarm 5.7D	0539 and 0540	Alarm 6.4D	0611 and 0612
Alarm 4.2A	0397 and 0398	Alarm 4.11A	0469 and 0470	Alarm 5.8A	0541 and 0542	Alarm 6.5A	0613 and 0614
Alarm 4.2B	0399 and 0400	Alarm 4.11B	0471 and 0472	Alarm 5.8B	0543 and 0544	Alarm 6.5B	0615 and 0616
Alarm 4.2C	0401 and 0402	Alarm 4.11C	0473 and 0474	Alarm 5.8C	0545 and 0546	Alarm 6.5C	0617 and 0618
Alarm 4.2D	0403 and 0404	Alarm 4.11D	0475 and 0476	Alarm 5.8D	0547 and 0548	Alarm 6.5D	0619 and 0620
Alarm 4.3A	0405 and 0406	Alarm 4.12A	0477 and 0478	Alarm 5.9A	0549 and 0550	Alarm 6.6A	0621 and 0622
Alarm 4.3B	0407 and 0408	Alarm 4.12B	0479 and 0480	Alarm 5.9B	0551 and 0552	Alarm 6.6B	0623 and 0624
Alarm 4.3C	0409 and 0410	Alarm 4.12C	0481 and 0482	Alarm 5.9C	0553 and 0554	Alarm 6.6C	0625 and 0626
Alarm 4.3D	0411 and 0412	Alarm 4.12D	0483 and 0484	Alarm 5.9D	0555 and 0556	Alarm 6.6D	0627 and 0628
Alarm 4.4A	0413 and 0414	Alarm 5.1A	0485 and 0486	Alarm 5.10A	0557 and 0558	Alarm 6.7A	0629 and 0630
Alarm 4.4B	0415 and 0416	Alarm 5.1B	0487 and 0488	Alarm 5.10B	0559 and 0560	Alarm 6.7B	0631 and 0632
Alarm 4.4C	0417 and 0418	Alarm 5.1C	0489 and 0490	Alarm 5.10C	0561 and 0562	Alarm 6.7C	0633 and 0634
Alarm 4.4D	0419 and 0420	Alarm 5.1D	0491 and 0492	Alarm 5.10D	0563 and 0564	Alarm 6.7D	0635 and 0636
Alarm 4.5A	0421 and 0422	Alarm 5.2A	0493 and 0494	Alarm 5.11A	0565 and 0566	Alarm 6.8A	0637 and 0638
Alarm 4.5B	0423 and 0424	Alarm 5.2B	0495 and 0496	Alarm 5.11B	0567 and 0568	Alarm 6.8B	0639 and 0640
Alarm 4.5C	0425 and 0426	Alarm 5.2C	0497 and 0498	Alarm 5.11C	0569 and 0570	Alarm 6.8C	0641 and 0642
Alarm 4.5D	0427 and 0428	Alarm 5.2D	0499 and 0500	Alarm 5.11D	0571 and 0572	Alarm 6.8D	0643 and 0644
Alarm 4.6A	0429 and 0430	Alarm 5.3A	0501 and 0502	Alarm 5.12A	0573 and 0574	Alarm 6.9A	0645 and 0646
Alarm 4.6B	0431 and 0432	Alarm 5.3B	0503 and 0504	Alarm 5.12B	0575 and 0576	Alarm 6.9B	0647 and 0648
Alarm 4.6C	0433 and 0434	Alarm 5.3C	0505 and 0506	Alarm 5.12C	0577 and 0578	Alarm 6.9C	0649 and 0650
Alarm 4.6D	0435 and 0436	Alarm 5.3D	0507 and 0508	Alarm 5.12D	0579 and 0580	Alarm 6.9D	0651 and 0652
Alarm 4.7A	0437 and 0438	Alarm 5.4A	0509 and 0510	Alarm 6.1A	0581 and 0582	Alarm 6.10A	0653 and 0654
Alarm 4.7B	0439 and 0440	Alarm 5.4B	0511 and 0512	Alarm 6.1B	0583 and 0584	Alarm 6.10B	0655 and 0656
Alarm 4.7C	0441 and 0442	Alarm 5.4C	0513 and 0514	Alarm 6.1C	0585 and 0586	Alarm 6.10C	0657 and 0658
Alarm 4.7D	0443 and 0444	Alarm 5.4D	0515 and 0516	Alarm 6.1D	0587 and 0588	Alarm 6.10D	0659 and 0660
Alarm 4.8A	0445 and 0446	Alarm 5.5A	0517 and 0518	Alarm 6.2A	0589 and 0590	Alarm 6.11A	0661 and 0662
Alarm 4.8B	0447 and 0448	Alarm 5.5B	0519 and 0520	Alarm 6.2B	0591 and 0592	Alarm 6.11B	0663 and 0664
Alarm 4.8C	0449 and 0450	Alarm 5.5C	0521 and 0522	Alarm 6.2C	0593 and 0594	Alarm 6.11C	0665 and 0666
Alarm 4.8D	0451 and 0452	Alarm 5.5D	0523 and 0524	Alarm 6.2D	0595 and 0596	Alarm 6.11D	0667 and 0668
Alarm 4.9A	0453 and 0454	Alarm 5.6A	0525 and 0526	Alarm 6.3A	0597 and 0598	Alarm 6.12A	0669 and 0670
Alarm 4.9B	0455 and 0456	Alarm 5.6B	0527 and 0528	Alarm 6.3B	0599 and 0600	Alarm 6.12B	0671 and 0672
Alarm 4.9C	0457 and 0458	Alarm 5.6C	0529 and 0530	Alarm 6.3C	0601 and 0602	Alarm 6.12C	0673 and 0674
Alarm 4.9D	0459 and 0460	Alarm 5.6D	0531 and 0532	Alarm 6.3D	0603 and 0604	Alarm 6.12D	0675 and 0676

Table 5.18 Alarm Trip Levels (Continued)

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	0701 and 0702	Totalizer 2.7A	0773 and 0774	Totalizer 4.1A	0845 and 0846	Totalizer 5.7A	0917 and 0918
Totalizer 1.1B	0703 and 0704	Totalizer 2.7B	0775 and 0776	Totalizer 4.1B	0847 and 0848	Totalizer 5.7B	0919 and 0920
Totalizer 1.2A	0705 and 0706	Totalizer 2.8A	0777 and 0778	Totalizer 4.2A	0849 and 0850	Totalizer 5.8A	0921 and 0922
Totalizer 1.2B	0707 and 0708	Totalizer 2.8B	0779 and 0780	Totalizer 4.2B	0851 and 0852	Totalizer 5.8B	0923 and 0924
Totalizer 1.3A	0709 and 0710	Totalizer 2.9A	0781 and 0782	Totalizer 4.3A	0853 and 0854	Totalizer 5.9A	0925 and 0926
Totalizer 1.3B	0711 and 0712	Totalizer 2.9B	0783 and 0784	Totalizer 4.3B	0855 and 0856	Totalizer 5.9B	0927 and 0928
Totalizer 1.4A	0713 and 0714	Totalizer 2.10A	0785 and 0786	Totalizer 4.4A	0857 and 0858	Totalizer 5.10A	0929 and 0930
Totalizer 1.4B	0715 and 0716	Totalizer 2.10B	0787 and 0788	Totalizer 4.4B	0859 and 0860	Totalizer 5.10B	0931 and 0932
Totalizer 1.5A	0717 and 0718	Totalizer 2.11A	0789 and 0790	Totalizer 4.5A	0861 and 0862	Totalizer 5.11A	0933 and 0934
Totalizer 1.5B	0719 and 0720	Totalizer 2.11B	0791 and 0792	Totalizer 4.5B	0863 and 0864	Totalizer 5.11B	0935 and 0936
Totalizer 1.6A	0721 and 0722	Totalizer 2.12A	0793 and 0794	Totalizer 4.6A	0865 and 0866	Totalizer 5.12A	0937 and 0938
Totalizer 1.6B	0723 and 0724	Totalizer 2.12B	0795 and 0796	Totalizer 4.6B	0867 and 0868	Totalizer 5.12B	0939 and 0940
Totalizer 1.7A	0725 and 0726	Totalizer 3.1A	0797 and 0798	Totalizer 4.7A	0869 and 0870	Totalizer 6.1A	0941 and 0942
Totalizer 1.7B	0727 and 0728	Totalizer 3.1B	0799 and 0800	Totalizer 4.7B	0871 and 0872	Totalizer 6.1B	0943 and 0944
Totalizer 1.8A	0729 and 0730	Totalizer 3.2A	0801 and 0802	Totalizer 4.8A	0873 and 0874	Totalizer 6.2A	0945 and 0946
Totalizer 1.8B	0731 and 0732	Totalizer 3.2B	0803 and 0804	Totalizer 4.8B	0875 and 0876	Totalizer 6.2B	0947 and 0948
Totalizer 1.9A	0733 and 0734	Totalizer 3.3A	0805 and 0806	Totalizer 4.9A	0877 and 0878	Totalizer 6.3A	0949 and 0950
Totalizer 1.9B	0735 and 0736	Totalizer 3.3B	0807 and 0808	Totalizer 4.9B	0879 and 0880	Totalizer 6.3B	0951 and 0952
Totalizer 1.10A	0737 and 0738	Totalizer 3.4A	0809 and 0810	Totalizer 4.10A	0881 and 0882	Totalizer 6.4A	0953 and 0954
Totalizer 1.10B	0739 and 0740	Totalizer 3.4B	0811 and 0812	Totalizer 4.10B	0883 and 0884	Totalizer 6.4B	0955 and 0956
Totalizer 1.11A	0741 and 0742	Totalizer 3.5A	0813 and 0814	Totalizer 4.11A	0885 and 0886	Totalizer 6.5A	0957 and 0958
Totalizer 1.11B	0743 and 0744	Totalizer 3.5B	0815 and 0816	Totalizer 4.11B	0887 and 0888	Totalizer 6.5B	0959 and 0960
Totalizer 1.12A	0745 and 0746	Totalizer 3.6A	0817 and 0818	Totalizer 4.12A	0889 and 0890	Totalizer 6.6A	0961 and 0962
Totalizer 1.12B	0747 and 0748	Totalizer 3.6B	0819 and 0820	Totalizer 4.12B	0891 and 0892	Totalizer 6.6B	0963 and 0964
Totalizer 2.1A	0749 and 0750	Totalizer 3.7A	0821 and 0822	Totalizer 5.1A	0893 and 0894	Totalizer 6.7A	0965 and 0966
Totalizer 2.1B	0751 and 0752	Totalizer 3.7B	0823 and 0824	Totalizer 5.1B	0895 and 0896	Totalizer 6.7B	0967 and 0968
Totalizer 2.2A	0753 and 0754	Totalizer 3.8A	0825 and 0826	Totalizer 5.2A	0897 and 0898	Totalizer 6.8A	0969 and 0970
Totalizer 2.2B	0755 and 0756	Totalizer 3.8B	0827 and 0828	Totalizer 5.2B	0899 and 0900	Totalizer 6.8B	0971 and 0972
Totalizer 2.3A	0757 and 0758	Totalizer 3.9A	0829 and 0830	Totalizer 5.3A	0901 and 0902	Totalizer 6.9A	0973 and 0974
Totalizer 2.3B	0759 and 0760	Totalizer 3.9B	0831 and 0832	Totalizer 5.3B	0903 and 0904	Totalizer 6.9B	0975 and 0976
Totalizer 2.4A	0761 and 0762	Totalizer 3.10A	0833 and 0834	Totalizer 5.4A	0905 and 0906	Totalizer 6.10A	0977 and 0978
Totalizer 2.4B	0763 and 0764	Totalizer 3.10B	0835 and 0836	Totalizer 5.4B	0907 and 0908	Totalizer 6.10B	0979 and 0980
Totalizer 2.5A	0765 and 0766	Totalizer 3.11A	0837 and 0838	Totalizer 5.5A	0909 and 0910	Totalizer 6.11A	0981 and 0982
Totalizer 2.5B	0767 and 0768	Totalizer 3.11B	0839 and 0840	Totalizer 5.5B	0911 and 0912	Totalizer 6.11B	0983 and 0984
Totalizer 2.6A	0769 and 0770	Totalizer 3.12A	0841 and 0842	Totalizer 5.6A	0913 and 0914	Totalizer 6.12A	0985 and 0986
Totalizer 2.6B	0771 and 0772	Totalizer 3.12B	0843 and 0844	Totalizer 5.6B	0915 and 0916	Totalizer 6.12B	0987 and 0988

Table 5.19 Totalizer Maximum Flowrate – Current Batch

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	1001 and 1002	Totalizer 2.7A	1073 and 1074	Totalizer 4.1A	1145 and 1146	Totalizer 5.7A	1217 and 1218
Totalizer 1.1B	1003 and 1004	Totalizer 2.7B	1075 and 1076	Totalizer 4.1B	1147 and 1148	Totalizer 5.7B	1219 and 1220
Totalizer 1.2A	1005 and 1006	Totalizer 2.8A	1077 and 1078	Totalizer 4.2A	1149 and 1150	Totalizer 5.8A	1221 and 1222
Totalizer 1.2B	1007 and 1008	Totalizer 2.8B	1079 and 1080	Totalizer 4.2B	1151 and 1152	Totalizer 5.8B	1223 and 1224
Totalizer 1.3A	1009 and 1010	Totalizer 2.9A	1081 and 1082	Totalizer 4.3A	1153 and 1154	Totalizer 5.9A	1225 and 1226
Totalizer 1.3B	1011 and 1012	Totalizer 2.9B	1083 and 1084	Totalizer 4.3B	1155 and 1156	Totalizer 5.9B	1227 and 1228
Totalizer 1.4A	1013 and 1014	Totalizer 2.10A	1085 and 1086	Totalizer 4.4A	1157 and 1158	Totalizer 5.10A	1229 and 1230
Totalizer 1.4B	1015 and 1016	Totalizer 2.10B	1087 and 1088	Totalizer 4.4B	1159 and 1160	Totalizer 5.10B	1231 and 1232
Totalizer 1.5A	1017 and 1018	Totalizer 2.11A	1089 and 1090	Totalizer 4.5A	1161 and 1162	Totalizer 5.11A	1233 and 1234
Totalizer 1.5B	1019 and 1020	Totalizer 2.11B	1091 and 1092	Totalizer 4.5B	1163 and 1164	Totalizer 5.11B	1235 and 1236
Totalizer 1.6A	1021 and 1022	Totalizer 2.12A	1093 and 1094	Totalizer 4.6A	1165 and 1166	Totalizer 5.12A	1237 and 1238
Totalizer 1.6B	1023 and 1024	Totalizer 2.12B	1095 and 1096	Totalizer 4.6B	1167 and 1168	Totalizer 5.12B	1239 and 1240
Totalizer 1.7A	1025 and 1026	Totalizer 3.1A	1097 and 1098	Totalizer 4.7A	1169 and 1170	Totalizer 6.1A	1241 and 1242
Totalizer 1.7B	1027 and 1028	Totalizer 3.1B	1099 and 1100	Totalizer 4.7B	1171 and 1172	Totalizer 6.1B	1243 and 1244
Totalizer 1.8A	1029 and 1030	Totalizer 3.2A	1101 and 1102	Totalizer 4.8A	1173 and 1174	Totalizer 6.2A	1245 and 1246
Totalizer 1.8B	1031 and 1032	Totalizer 3.2B	1103 and 1104	Totalizer 4.8B	1175 and 1176	Totalizer 6.2B	1247 and 1248
Totalizer 1.9A	1033 and 1034	Totalizer 3.3A	1105 and 1106	Totalizer 4.9A	1177 and 1178	Totalizer 6.3A	1249 and 1250
Totalizer 1.9B	1035 and 1036	Totalizer 3.3B	1107 and 1108	Totalizer 4.9B	1179 and 1180	Totalizer 6.3B	1251 and 1252
Totalizer 1.10A	1037 and 1038	Totalizer 3.4A	1109 and 1110	Totalizer 4.10A	1181 and 1182	Totalizer 6.4A	1253 and 1254
Totalizer 1.10B	1039 and 1040	Totalizer 3.4B	1111 and 1112	Totalizer 4.10B	1183 and 1184	Totalizer 6.4B	1255 and 1256
Totalizer 1.11A	1041 and 1042	Totalizer 3.5A	1113 and 1114	Totalizer 4.11A	1185 and 1186	Totalizer 6.5A	1257 and 1258
Totalizer 1.11B	1043 and 1044	Totalizer 3.5B	1115 and 1116	Totalizer 4.11B	1187 and 1188	Totalizer 6.5B	1259 and 1260
Totalizer 1.12A	1045 and 1046	Totalizer 3.6A	1117 and 1118	Totalizer 4.12A	1189 and 1190	Totalizer 6.6A	1261 and 1262
Totalizer 1.12B	1047 and 1048	Totalizer 3.6B	1119 and 1120	Totalizer 4.12B	1191 and 1192	Totalizer 6.6B	1263 and 1264
Totalizer 2.1A	1049 and 1050	Totalizer 3.7A	1121 and 1122	Totalizer 5.1A	1193 and 1194	Totalizer 6.7A	1265 and 1266
Totalizer 2.1B	1051 and 1052	Totalizer 3.7B	1123 and 1124	Totalizer 5.1B	1195 and 1196	Totalizer 6.7B	1267 and 1268
Totalizer 2.2A	1053 and 1054	Totalizer 3.8A	1125 and 1126	Totalizer 5.2A	1197 and 1198	Totalizer 6.8A	1269 and 1270
Totalizer 2.2B	1055 and 1056	Totalizer 3.8B	1127 and 1128	Totalizer 5.2B	1199 and 1200	Totalizer 6.8B	1271 and 1272
Totalizer 2.3A	1057 and 1058	Totalizer 3.9A	1129 and 1130	Totalizer 5.3A	1201 and 1202	Totalizer 6.9A	1273 and 1274
Totalizer 2.3B	1059 and 1060	Totalizer 3.9B	1131 and 1132	Totalizer 5.3B	1203 and 1204	Totalizer 6.9B	1275 and 1276
Totalizer 2.4A	1061 and 1062	Totalizer 3.10A	1133 and 1134	Totalizer 5.4A	1205 and 1206	Totalizer 6.10A	1277 and 1278
Totalizer 2.4B	1063 and 1064	Totalizer 3.10B	1135 and 1136	Totalizer 5.4B	1207 and 1208	Totalizer 6.10B	1279 and 1280
Totalizer 2.5A	1065 and 1066	Totalizer 3.11A	1137 and 1138	Totalizer 5.5A	1209 and 1210	Totalizer 6.11A	1281 and 1282
Totalizer 2.5B	1067 and 1068	Totalizer 3.11B	1139 and 1140	Totalizer 5.5B	1211 and 1212	Totalizer 6.11B	1283 and 1284
Totalizer 2.6A	1069 and 1070	Totalizer 3.12A	1141 and 1142	Totalizer 5.6A	1213 and 1214	Totalizer 6.12A	1285 and 1286
Totalizer 2.6B	1071 and 1072	Totalizer 3.12B	1143 and 1144	Totalizer 5.6B	1215 and 1216	Totalizer 6.12B	1287 and 1288

Table 5.20 Totalizer Minimum Flowrate – Current Batch

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	1301 and 1302	Totalizer 2.7A	1373 and 1374	Totalizer 4.1A	1445 and 1446	Totalizer 5.7A	1517 and 1518
Totalizer 1.1B	1303 and 1304	Totalizer 2.7B	1375 and 1376	Totalizer 4.1B	1447 and 1448	Totalizer 5.7B	1519 and 1520
Totalizer 1.2A	1305 and 1306	Totalizer 2.8A	1377 and 1378	Totalizer 4.2A	1449 and 1450	Totalizer 5.8A	1521 and 1522
Totalizer 1.2B	1307 and 1308	Totalizer 2.8B	1379 and 1380	Totalizer 4.2B	1451 and 1452	Totalizer 5.8B	1523 and 1524
Totalizer 1.3A	1309 and 1310	Totalizer 2.9A	1381 and 1382	Totalizer 4.3A	1453 and 1454	Totalizer 5.9A	1525 and 1526
Totalizer 1.3B	1311 and 1312	Totalizer 2.9B	1383 and 1384	Totalizer 4.3B	1455 and 1456	Totalizer 5.9B	1527 and 1528
Totalizer 1.4A	1313 and 1314	Totalizer 2.10A	1385 and 1386	Totalizer 4.4A	1457 and 1458	Totalizer 5.10A	1529 and 1530
Totalizer 1.4B	1315 and 1316	Totalizer 2.10B	1387 and 1388	Totalizer 4.4B	1459 and 1460	Totalizer 5.10B	1531 and 1532
Totalizer 1.5A	1317 and 1318	Totalizer 2.11A	1389 and 1390	Totalizer 4.5A	1461 and 1462	Totalizer 5.11A	1533 and 1534
Totalizer 1.5B	1319 and 1320	Totalizer 2.11B	1391 and 1392	Totalizer 4.5B	1463 and 1464	Totalizer 5.11B	1535 and 1536
Totalizer 1.6A	1321 and 1322	Totalizer 2.12A	1393 and 1394	Totalizer 4.6A	1465 and 1466	Totalizer 5.12A	1537 and 1538
Totalizer 1.6B	1323 and 1324	Totalizer 2.12B	1395 and 1396	Totalizer 4.6B	1467 and 1468	Totalizer 5.12B	1539 and 1540
Totalizer 1.7A	1325 and 1326	Totalizer 3.1A	1397 and 1398	Totalizer 4.7A	1469 and 1470	Totalizer 6.1A	1541 and 1542
Totalizer 1.7B	1327 and 1328	Totalizer 3.1B	1399 and 1400	Totalizer 4.7B	1471 and 1472	Totalizer 6.1B	1543 and 1544
Totalizer 1.8A	1329 and 1330	Totalizer 3.2A	1401 and 1402	Totalizer 4.8A	1473 and 1474	Totalizer 6.2A	1545 and 1546
Totalizer 1.8B	1331 and 1332	Totalizer 3.2B	1403 and 1404	Totalizer 4.8B	1475 and 1476	Totalizer 6.2B	1547 and 1548
Totalizer 1.9A	1333 and 1334	Totalizer 3.3A	1405 and 1406	Totalizer 4.9A	1477 and 1478	Totalizer 6.3A	1549 and 1550
Totalizer 1.9B	1335 and 1336	Totalizer 3.3B	1407 and 1408	Totalizer 4.9B	1479 and 1480	Totalizer 6.3B	1551 and 1552
Totalizer 1.10A	1337 and 1338	Totalizer 3.4A	1409 and 1410	Totalizer 4.10A	1481 and 1482	Totalizer 6.4A	1553 and 1554
Totalizer 1.10B	1339 and 1340	Totalizer 3.4B	1411 and 1412	Totalizer 4.10B	1483 and 1484	Totalizer 6.4B	1555 and 1556
Totalizer 1.11A	1341 and 1342	Totalizer 3.5A	1413 and 1414	Totalizer 4.11A	1485 and 1486	Totalizer 6.5A	1557 and 1558
Totalizer 1.11B	1343 and 1344	Totalizer 3.5B	1415 and 1416	Totalizer 4.11B	1487 and 1488	Totalizer 6.5B	1559 and 1560
Totalizer 1.12A	1345 and 1346	Totalizer 3.6A	1417 and 1418	Totalizer 4.12A	1489 and 1490	Totalizer 6.6A	1561 and 1562
Totalizer 1.12B	1347 and 1348	Totalizer 3.6B	1419 and 1420	Totalizer 4.12B	1491 and 1492	Totalizer 6.6B	1563 and 1564
Totalizer 2.1A	1349 and 1350	Totalizer 3.7A	1421 and 1422	Totalizer 5.1A	1493 and 1494	Totalizer 6.7A	1565 and 1566
Totalizer 2.1B	1351 and 1352	Totalizer 3.7B	1423 and 1424	Totalizer 5.1B	1495 and 1496	Totalizer 6.7B	1567 and 1568
Totalizer 2.2A	1353 and 1354	Totalizer 3.8A	1425 and 1426	Totalizer 5.2A	1497 and 1498	Totalizer 6.8A	1569 and 1570
Totalizer 2.2B	1355 and 1356	Totalizer 3.8B	1427 and 1428	Totalizer 5.2B	1499 and 1500	Totalizer 6.8B	1571 and 1572
Totalizer 2.3A	1357 and 1358	Totalizer 3.9A	1429 and 1430	Totalizer 5.3A	1501 and 1502	Totalizer 6.9A	1573 and 1574
Totalizer 2.3B	1359 and 1360	Totalizer 3.9B	1431 and 1432	Totalizer 5.3B	1503 and 1504	Totalizer 6.9B	1575 and 1576
Totalizer 2.4A	1361 and 1362	Totalizer 3.10A	1433 and 1434	Totalizer 5.4A	1505 and 1506	Totalizer 6.10A	1577 and 1578
Totalizer 2.4B	1363 and 1364	Totalizer 3.10B	1435 and 1436	Totalizer 5.4B	1507 and 1508	Totalizer 6.10B	1579 and 1580
Totalizer 2.5A	1365 and 1366	Totalizer 3.11A	1437 and 1438	Totalizer 5.5A	1509 and 1510	Totalizer 6.11A	1581 and 1582
Totalizer 2.5B	1367 and 1368	Totalizer 3.11B	1439 and 1440	Totalizer 5.5B	1511 and 1512	Totalizer 6.11B	1583 and 1584
Totalizer 2.6A	1369 and 1370	Totalizer 3.12A	1441 and 1442	Totalizer 5.6A	1513 and 1514	Totalizer 6.12A	1585 and 1586
Totalizer 2.6B	1371 and 1372	Totalizer 3.12B	1443 and 1444	Totalizer 5.6B	1515 and 1516	Totalizer 6.12B	1587 and 1588

Table 5.21 Totalizer Average Flowrate – Current Batch

Write Access: Read only		64-bit double precision floating point, 0 to 9999999999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	1601 to 1604	Totalizer 2.7A	1745 to 1748	Totalizer 4.1A	1889 to 1892	Totalizer 5.7A	2033 to 2036
Totalizer 1.1B	1605 to 1608	Totalizer 2.7B	1749 to 1752	Totalizer 4.1B	1893 to 1896	Totalizer 5.7B	2037 to 2040
Totalizer 1.2A	1609 to 1612	Totalizer 2.8A	1753 to 1756	Totalizer 4.2A	1897 to 1900	Totalizer 5.8A	2041 to 2044
Totalizer 1.2B	1613 to 1616	Totalizer 2.8B	1757 to 1760	Totalizer 4.2B	1901 to 1904	Totalizer 5.8B	2045 to 2048
Totalizer 1.3A	1617 to 1620	Totalizer 2.9A	1761 to 1764	Totalizer 4.3A	1905 to 1908	Totalizer 5.9A	2049 to 2052
Totalizer 1.3B	1621 to 1624	Totalizer 2.9B	1765 to 1768	Totalizer 4.3B	1909 to 1912	Totalizer 5.9B	2053 to 2056
Totalizer 1.4A	1625 to 1628	Totalizer 2.10A	1769 to 1772	Totalizer 4.4A	1913 to 1916	Totalizer 5.10A	2057 to 2060
Totalizer 1.4B	1629 to 1632	Totalizer 2.10B	1773 to 1776	Totalizer 4.4B	1917 to 1920	Totalizer 5.10B	2061 to 2064
Totalizer 1.5A	1633 to 1636	Totalizer 2.11A	1777 to 1780	Totalizer 4.5A	1921 to 1924	Totalizer 5.11A	2065 to 2068
Totalizer 1.5B	1637 to 1640	Totalizer 2.11B	1781 to 1784	Totalizer 4.5B	1925 to 1928	Totalizer 5.11B	2069 to 2072
Totalizer 1.6A	1641 to 1644	Totalizer 2.12A	1785 to 1788	Totalizer 4.6A	1929 to 1932	Totalizer 5.12A	2073 to 2076
Totalizer 1.6B	1645 to 1648	Totalizer 2.12B	1789 to 1792	Totalizer 4.6B	1933 to 1936	Totalizer 5.12B	2077 to 2080
Totalizer 1.7A	1649 to 1652	Totalizer 3.1A	1793 to 1796	Totalizer 4.7A	1937 to 1940	Totalizer 6.1A	2081 to 2084
Totalizer 1.7B	1653 to 1656	Totalizer 3.1B	1797 to 1800	Totalizer 4.7B	1941 to 1944	Totalizer 6.1B	2085 to 2088
Totalizer 1.8A	1657 to 1660	Totalizer 3.2A	1801 to 1804	Totalizer 4.8A	1945 to 1948	Totalizer 6.2A	2089 to 2092
Totalizer 1.8B	1661 to 1664	Totalizer 3.2B	1805 to 1808	Totalizer 4.8B	1949 to 1952	Totalizer 6.2B	2093 to 2096
Totalizer 1.9A	1665 to 1668	Totalizer 3.3A	1809 to 1812	Totalizer 4.9A	1953 to 1956	Totalizer 6.3A	2097 to 2100
Totalizer 1.9B	1669 to 1672	Totalizer 3.3B	1813 to 1816	Totalizer 4.9B	1957 to 1960	Totalizer 6.3B	2101 to 2104
Totalizer 1.10A	1673 to 1676	Totalizer 3.4A	1817 to 1820	Totalizer 4.10A	1961 to 1964	Totalizer 6.4A	2105 to 2108
Totalizer 1.10B	1677 to 1680	Totalizer 3.4B	1821 to 1824	Totalizer 4.10B	1965 to 1968	Totalizer 6.4B	2109 to 2112
Totalizer 1.11A	1681 to 1684	Totalizer 3.5A	1825 to 1828	Totalizer 4.11A	1969 to 1972	Totalizer 6.5A	2113 to 2116
Totalizer 1.11B	1685 to 1688	Totalizer 3.5B	1829 to 1832	Totalizer 4.11B	1973 to 1976	Totalizer 6.5B	2117 to 2120
Totalizer 1.12A	1689 to 1692	Totalizer 3.6A	1833 to 1836	Totalizer 4.12A	1977 to 1980	Totalizer 6.6A	2121 to 2124
Totalizer 1.12B	1693 to 1696	Totalizer 3.6B	1837 to 1840	Totalizer 4.12B	1981 to 1984	Totalizer 6.6B	2125 to 2128
Totalizer 2.1A	1697 to 1700	Totalizer 3.7A	1841 to 1844	Totalizer 5.1A	1985 to 1988	Totalizer 6.7A	2129 to 2132
Totalizer 2.1B	1701 to 1704	Totalizer 3.7B	1845 to 1848	Totalizer 5.1B	1989 to 1992	Totalizer 6.7B	2133 to 2136
Totalizer 2.2A	1705 to 1708	Totalizer 3.8A	1849 to 1852	Totalizer 5.2A	1993 to 1996	Totalizer 6.8A	2137 to 2140
Totalizer 2.2B	1709 to 1712	Totalizer 3.8B	1853 to 1856	Totalizer 5.2B	1997 to 2000	Totalizer 6.8B	2141 to 2144
Totalizer 2.3A	1713 to 1716	Totalizer 3.9A	1857 to 1860	Totalizer 5.3A	2001 to 2004	Totalizer 6.9A	2145 to 2148
Totalizer 2.3B	1717 to 1720	Totalizer 3.9B	1861 to 1864	Totalizer 5.3B	2005 to 2008	Totalizer 6.9B	2149 to 2152
Totalizer 2.4A	1721 to 1724	Totalizer 3.10A	1865 to 1868	Totalizer 5.4A	2009 to 2012	Totalizer 6.10A	2153 to 2156
Totalizer 2.4B	1725 to 1728	Totalizer 3.10B	1869 to 1872	Totalizer 5.4B	2013 to 2016	Totalizer 6.10B	2157 to 2160
Totalizer 2.5A	1729 to 1732	Totalizer 3.11A	1873 to 1876	Totalizer 5.5A	2017 to 2020	Totalizer 6.11A	2161 to 2164
Totalizer 2.5B	1733 to 1736	Totalizer 3.11B	1877 to 1880	Totalizer 5.5B	2021 to 2024	Totalizer 6.11B	2165 to 2168
Totalizer 2.6A	1737 to 1740	Totalizer 3.12A	1881 to 1884	Totalizer 5.6A	2025 to 2028	Totalizer 6.12A	2169 to 2172
Totalizer 2.6B	1741 to 1744	Totalizer 3.12B	1885 to 1888	Totalizer 5.6B	2029 to 2032	Totalizer 6.12B	2173 to 2176

Table 5.22 Totalizer Batch Total – Current Batch

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	2201 and 2202	Totalizer 2.7A	2273 and 2274	Totalizer 4.1A	2345 and 2346	Totalizer 5.7A	2417 and 2418
Totalizer 1.1B	2203 and 2204	Totalizer 2.7B	2275 and 2276	Totalizer 4.1B	2347 and 2348	Totalizer 5.7B	2419 and 2420
Totalizer 1.2A	2205 and 2206	Totalizer 2.8A	2277 and 2278	Totalizer 4.2A	2349 and 2350	Totalizer 5.8A	2421 and 2422
Totalizer 1.2B	2207 and 2208	Totalizer 2.8B	2279 and 2280	Totalizer 4.2B	2351 and 2352	Totalizer 5.8B	2423 and 2424
Totalizer 1.3A	2209 and 2210	Totalizer 2.9A	2281 and 2282	Totalizer 4.3A	2353 and 2354	Totalizer 5.9A	2425 and 2426
Totalizer 1.3B	2211 and 2212	Totalizer 2.9B	2283 and 2284	Totalizer 4.3B	2355 and 2356	Totalizer 5.9B	2427 and 2428
Totalizer 1.4A	2213 and 2214	Totalizer 2.10A	2285 and 2286	Totalizer 4.4A	2357 and 2358	Totalizer 5.10A	2429 and 2430
Totalizer 1.4B	2215 and 2216	Totalizer 2.10B	2287 and 2288	Totalizer 4.4B	2359 and 2360	Totalizer 5.10B	2431 and 2432
Totalizer 1.5A	2217 and 2218	Totalizer 2.11A	2289 and 2290	Totalizer 4.5A	2361 and 2362	Totalizer 5.11A	2433 and 2434
Totalizer 1.5B	2219 and 2220	Totalizer 2.11B	2291 and 2292	Totalizer 4.5B	2363 and 2364	Totalizer 5.11B	2435 and 2436
Totalizer 1.6A	2221 and 2222	Totalizer 2.12A	2293 and 2294	Totalizer 4.6A	2365 and 2366	Totalizer 5.12A	2437 and 2438
Totalizer 1.6B	2223 and 2224	Totalizer 2.12B	2295 and 2296	Totalizer 4.6B	2367 and 2368	Totalizer 5.12B	2439 and 2440
Totalizer 1.7A	2225 and 2226	Totalizer 3.1A	2297 and 2298	Totalizer 4.7A	2369 and 2370	Totalizer 6.1A	2441 and 2442
Totalizer 1.7B	2227 and 2228	Totalizer 3.1B	2299 and 2300	Totalizer 4.7B	2371 and 2372	Totalizer 6.1B	2443 and 2444
Totalizer 1.8A	2229 and 2230	Totalizer 3.2A	2301 and 2302	Totalizer 4.8A	2373 and 2374	Totalizer 6.2A	2445 and 2446
Totalizer 1.8B	2231 and 2232	Totalizer 3.2B	2303 and 2304	Totalizer 4.8B	2375 and 2376	Totalizer 6.2B	2447 and 2448
Totalizer 1.9A	2233 and 2234	Totalizer 3.3A	2305 and 2306	Totalizer 4.9A	2377 and 2378	Totalizer 6.3A	2449 and 2450
Totalizer 1.9B	2235 and 2236	Totalizer 3.3B	2307 and 2308	Totalizer 4.9B	2379 and 2380	Totalizer 6.3B	2451 and 2452
Totalizer 1.10A	2237 and 2238	Totalizer 3.4A	2309 and 2310	Totalizer 4.10A	2381 and 2382	Totalizer 6.4A	2453 and 2454
Totalizer 1.10B	2239 and 2240	Totalizer 3.4B	2311 and 2312	Totalizer 4.10B	2383 and 2384	Totalizer 6.4B	2455 and 2456
Totalizer 1.11A	2241 and 2242	Totalizer 3.5A	2313 and 2314	Totalizer 4.11A	2385 and 2386	Totalizer 6.5A	2457 and 2458
Totalizer 1.11B	2243 and 2244	Totalizer 3.5B	2315 and 2316	Totalizer 4.11B	2387 and 2388	Totalizer 6.5B	2459 and 2460
Totalizer 1.12A	2245 and 2246	Totalizer 3.6A	2317 and 2318	Totalizer 4.12A	2389 and 2390	Totalizer 6.6A	2461 and 2462
Totalizer 1.12B	2247 and 2248	Totalizer 3.6B	2319 and 2320	Totalizer 4.12B	2391 and 2392	Totalizer 6.6B	2463 and 2464
Totalizer 2.1A	2249 and 2250	Totalizer 3.7A	2321 and 2322	Totalizer 5.1A	2393 and 2394	Totalizer 6.7A	2465 and 2466
Totalizer 2.1B	2251 and 2252	Totalizer 3.7B	2323 and 2324	Totalizer 5.1B	2395 and 2396	Totalizer 6.7B	2467 and 2468
Totalizer 2.2A	2253 and 2254	Totalizer 3.8A	2325 and 2326	Totalizer 5.2A	2397 and 2398	Totalizer 6.8A	2469 and 2470
Totalizer 2.2B	2255 and 2256	Totalizer 3.8B	2327 and 2328	Totalizer 5.2B	2399 and 2400	Totalizer 6.8B	2471 and 2472
Totalizer 2.3A	2257 and 2258	Totalizer 3.9A	2329 and 2330	Totalizer 5.3A	2401 and 2402	Totalizer 6.9A	2473 and 2474
Totalizer 2.3B	2259 and 2260	Totalizer 3.9B	2331 and 2332	Totalizer 5.3B	2403 and 2404	Totalizer 6.9B	2475 and 2476
Totalizer 2.4A	2261 and 2262	Totalizer 3.10A	2333 and 2334	Totalizer 5.4A	2405 and 2406	Totalizer 6.10A	2477 and 2478
Totalizer 2.4B	2263 and 2264	Totalizer 3.10B	2335 and 2336	Totalizer 5.4B	2407 and 2408	Totalizer 6.10B	2479 and 2480
Totalizer 2.5A	2265 and 2266	Totalizer 3.11A	2337 and 2338	Totalizer 5.5A	2409 and 2410	Totalizer 6.11A	2481 and 2482
Totalizer 2.5B	2267 and 2268	Totalizer 3.11B	2339 and 2340	Totalizer 5.5B	2411 and 2412	Totalizer 6.11B	2483 and 2484
Totalizer 2.6A	2269 and 2270	Totalizer 3.12A	2341 and 2342	Totalizer 5.6A	2413 and 2414	Totalizer 6.12A	2485 and 2486
Totalizer 2.6B	2271 and 2272	Totalizer 3.12B	2343 and 2344	Totalizer 5.6B	2415 and 2416	Totalizer 6.12B	2487 and 2488

Table 5.23 Totalizer Maximum Flowrate – Previous Batch

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	2501 and 2502	Totalizer 2.7A	2573 and 2574	Totalizer 4.1A	2645 and 2646	Totalizer 5.7A	2717 and 2718
Totalizer 1.1B	2503 and 2504	Totalizer 2.7B	2575 and 2576	Totalizer 4.1B	2647 and 2648	Totalizer 5.7B	2719 and 2720
Totalizer 1.2A	2505 and 2506	Totalizer 2.8A	2577 and 2578	Totalizer 4.2A	2649 and 2650	Totalizer 5.8A	2721 and 2722
Totalizer 1.2B	2507 and 2508	Totalizer 2.8B	2579 and 2580	Totalizer 4.2B	2651 and 2652	Totalizer 5.8B	2723 and 2724
Totalizer 1.3A	2509 and 2510	Totalizer 2.9A	2581 and 2582	Totalizer 4.3A	2653 and 2654	Totalizer 5.9A	2725 and 2726
Totalizer 1.3B	2511 and 2512	Totalizer 2.9B	2583 and 2584	Totalizer 4.3B	2655 and 2656	Totalizer 5.9B	2727 and 2728
Totalizer 1.4A	2513 and 2514	Totalizer 2.10A	2585 and 2586	Totalizer 4.4A	2657 and 2658	Totalizer 5.10A	2729 and 2730
Totalizer 1.4B	2515 and 2516	Totalizer 2.10B	2587 and 2588	Totalizer 4.4B	2659 and 2660	Totalizer 5.10B	2731 and 2732
Totalizer 1.5A	2517 and 2518	Totalizer 2.11A	2589 and 2590	Totalizer 4.5A	2661 and 2662	Totalizer 5.11A	2733 and 2734
Totalizer 1.5B	2519 and 2520	Totalizer 2.11B	2591 and 2592	Totalizer 4.5B	2663 and 2664	Totalizer 5.11B	2735 and 2736
Totalizer 1.6A	2521 and 2522	Totalizer 2.12A	2593 and 2594	Totalizer 4.6A	2665 and 2666	Totalizer 5.12A	2737 and 2738
Totalizer 1.6B	2523 and 2524	Totalizer 2.12B	2595 and 2596	Totalizer 4.6B	2667 and 2668	Totalizer 5.12B	2739 and 2740
Totalizer 1.7A	2525 and 2526	Totalizer 3.1A	2597 and 2598	Totalizer 4.7A	2669 and 2670	Totalizer 6.1A	2741 and 2742
Totalizer 1.7B	2527 and 2528	Totalizer 3.1B	2599 and 2600	Totalizer 4.7B	2671 and 2672	Totalizer 6.1B	2743 and 2744
Totalizer 1.8A	2529 and 2530	Totalizer 3.2A	2601 and 2602	Totalizer 4.8A	2673 and 2674	Totalizer 6.2A	2745 and 2746
Totalizer 1.8B	2531 and 2532	Totalizer 3.2B	2603 and 2604	Totalizer 4.8B	2675 and 2676	Totalizer 6.2B	2747 and 2748
Totalizer 1.9A	2533 and 2534	Totalizer 3.3A	2605 and 2606	Totalizer 4.9A	2677 and 2678	Totalizer 6.3A	2749 and 2750
Totalizer 1.9B	2535 and 2536	Totalizer 3.3B	2607 and 2608	Totalizer 4.9B	2679 and 2680	Totalizer 6.3B	2751 and 2752
Totalizer 1.10A	2537 and 2538	Totalizer 3.4A	2609 and 2610	Totalizer 4.10A	2681 and 2682	Totalizer 6.4A	2753 and 2754
Totalizer 1.10B	2539 and 2540	Totalizer 3.4B	2611 and 2612	Totalizer 4.10B	2683 and 2684	Totalizer 6.4B	2755 and 2756
Totalizer 1.11A	2541 and 2542	Totalizer 3.5A	2613 and 2614	Totalizer 4.11A	2685 and 2686	Totalizer 6.5A	2757 and 2758
Totalizer 1.11B	2543 and 2544	Totalizer 3.5B	2615 and 2616	Totalizer 4.11B	2687 and 2688	Totalizer 6.5B	2759 and 2760
Totalizer 1.12A	2545 and 2546	Totalizer 3.6A	2617 and 2618	Totalizer 4.12A	2689 and 2690	Totalizer 6.6A	2761 and 2762
Totalizer 1.12B	2547 and 2548	Totalizer 3.6B	2619 and 2620	Totalizer 4.12B	2691 and 2692	Totalizer 6.6B	2763 and 2764
Totalizer 2.1A	2549 and 2550	Totalizer 3.7A	2621 and 2622	Totalizer 5.1A	2693 and 2694	Totalizer 6.7A	2765 and 2766
Totalizer 2.1B	2551 and 2552	Totalizer 3.7B	2623 and 2624	Totalizer 5.1B	2695 and 2696	Totalizer 6.7B	2767 and 2768
Totalizer 2.2A	2553 and 2554	Totalizer 3.8A	2625 and 2626	Totalizer 5.2A	2697 and 2698	Totalizer 6.8A	2769 and 2770
Totalizer 2.2B	2555 and 2556	Totalizer 3.8B	2627 and 2628	Totalizer 5.2B	2699 and 2700	Totalizer 6.8B	2771 and 2772
Totalizer 2.3A	2557 and 2558	Totalizer 3.9A	2629 and 2630	Totalizer 5.3A	2701 and 2702	Totalizer 6.9A	2773 and 2774
Totalizer 2.3B	2559 and 2560	Totalizer 3.9B	2631 and 2632	Totalizer 5.3B	2703 and 2704	Totalizer 6.9B	2775 and 2776
Totalizer 2.4A	2561 and 2562	Totalizer 3.10A	2633 and 2634	Totalizer 5.4A	2705 and 2706	Totalizer 6.10A	2777 and 2778
Totalizer 2.4B	2563 and 2564	Totalizer 3.10B	2635 and 2636	Totalizer 5.4B	2707 and 2708	Totalizer 6.10B	2779 and 2780
Totalizer 2.5A	2565 and 2566	Totalizer 3.11A	2637 and 2638	Totalizer 5.5A	2709 and 2710	Totalizer 6.11A	2781 and 2782
Totalizer 2.5B	2567 and 2568	Totalizer 3.11B	2639 and 2640	Totalizer 5.5B	2711 and 2712	Totalizer 6.11B	2783 and 2784
Totalizer 2.6A	2569 and 2570	Totalizer 3.12A	2641 and 2642	Totalizer 5.6A	2713 and 2714	Totalizer 6.12A	2785 and 2786
Totalizer 2.6B	2571 and 2572	Totalizer 3.12B	2643 and 2644	Totalizer 5.6B	2715 and 2716	Totalizer 6.12B	2787 and 2788

Table 5.24 Totalizer Minimum Flowrate – Previous Batch

Write Access: Read only		32-bit single precision floating point, -999 to 9999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	2801 and 2802	Totalizer 2.7A	2873 and 2874	Totalizer 4.1A	2945 and 2946	Totalizer 5.7A	3017 and 3018
Totalizer 1.1B	2803 and 2804	Totalizer 2.7B	2875 and 2876	Totalizer 4.1B	2947 and 2948	Totalizer 5.7B	3019 and 3020
Totalizer 1.2A	2805 and 2806	Totalizer 2.8A	2877 and 2878	Totalizer 4.2A	2949 and 2950	Totalizer 5.8A	3021 and 3022
Totalizer 1.2B	2807 and 2808	Totalizer 2.8B	2879 and 2880	Totalizer 4.2B	2951 and 2952	Totalizer 5.8B	3023 and 3024
Totalizer 1.3A	2809 and 2810	Totalizer 2.9A	2881 and 2882	Totalizer 4.3A	2953 and 2954	Totalizer 5.9A	3025 and 3026
Totalizer 1.3B	2811 and 2812	Totalizer 2.9B	2883 and 2884	Totalizer 4.3B	2955 and 2956	Totalizer 5.9B	3027 and 3028
Totalizer 1.4A	2813 and 2814	Totalizer 2.10A	2885 and 2886	Totalizer 4.4A	2957 and 2958	Totalizer 5.10A	3029 and 3030
Totalizer 1.4B	2815 and 2816	Totalizer 2.10B	2887 and 2888	Totalizer 4.4B	2959 and 2960	Totalizer 5.10B	3031 and 3032
Totalizer 1.5A	2817 and 2818	Totalizer 2.11A	2889 and 2890	Totalizer 4.5A	2961 and 2962	Totalizer 5.11A	3033 and 3034
Totalizer 1.5B	2819 and 2820	Totalizer 2.11B	2891 and 2892	Totalizer 4.5B	2963 and 2964	Totalizer 5.11B	3035 and 3036
Totalizer 1.6A	2821 and 2822	Totalizer 2.12A	2893 and 2894	Totalizer 4.6A	2965 and 2966	Totalizer 5.12A	3037 and 3038
Totalizer 1.6B	2823 and 2824	Totalizer 2.12B	2895 and 2896	Totalizer 4.6B	2967 and 2968	Totalizer 5.12B	3039 and 3040
Totalizer 1.7A	2825 and 2826	Totalizer 3.1A	2897 and 2898	Totalizer 4.7A	2969 and 2970	Totalizer 6.1A	3041 and 3042
Totalizer 1.7B	2827 and 2828	Totalizer 3.1B	2899 and 2900	Totalizer 4.7B	2971 and 2972	Totalizer 6.1B	3043 and 3044
Totalizer 1.8A	2829 and 2830	Totalizer 3.2A	2901 and 2902	Totalizer 4.8A	2973 and 2974	Totalizer 6.2A	3045 and 3046
Totalizer 1.8B	2831 and 2832	Totalizer 3.2B	2903 and 2904	Totalizer 4.8B	2975 and 2976	Totalizer 6.2B	3047 and 3048
Totalizer 1.9A	2833 and 2834	Totalizer 3.3A	2905 and 2906	Totalizer 4.9A	2977 and 2978	Totalizer 6.3A	3049 and 3050
Totalizer 1.9B	2835 and 2836	Totalizer 3.3B	2907 and 2908	Totalizer 4.9B	2979 and 2980	Totalizer 6.3B	3051 and 3052
Totalizer 1.10A	2837 and 2838	Totalizer 3.4A	2909 and 2910	Totalizer 4.10A	2981 and 2982	Totalizer 6.4A	3053 and 3054
Totalizer 1.10B	2839 and 2840	Totalizer 3.4B	2911 and 2912	Totalizer 4.10B	2983 and 2984	Totalizer 6.4B	3055 and 3056
Totalizer 1.11A	2841 and 2842	Totalizer 3.5A	2913 and 2914	Totalizer 4.11A	2985 and 2986	Totalizer 6.5A	3057 and 3058
Totalizer 1.11B	2843 and 2844	Totalizer 3.5B	2915 and 2916	Totalizer 4.11B	2987 and 2988	Totalizer 6.5B	3059 and 3060
Totalizer 1.12A	2845 and 2846	Totalizer 3.6A	2917 and 2918	Totalizer 4.12A	2989 and 2990	Totalizer 6.6A	3061 and 3062
Totalizer 1.12B	2847 and 2848	Totalizer 3.6B	2919 and 2920	Totalizer 4.12B	2991 and 2992	Totalizer 6.6B	3063 and 3064
Totalizer 2.1A	2849 and 2850	Totalizer 3.7A	2921 and 2922	Totalizer 5.1A	2993 and 2994	Totalizer 6.7A	3065 and 3066
Totalizer 2.1B	2851 and 2852	Totalizer 3.7B	2923 and 2924	Totalizer 5.1B	2995 and 2996	Totalizer 6.7B	3067 and 3068
Totalizer 2.2A	2853 and 2854	Totalizer 3.8A	2925 and 2926	Totalizer 5.2A	2997 and 2998	Totalizer 6.8A	3069 and 3070
Totalizer 2.2B	2855 and 2856	Totalizer 3.8B	2927 and 2928	Totalizer 5.2B	2999 and 3000	Totalizer 6.8B	3071 and 3072
Totalizer 2.3A	2857 and 2858	Totalizer 3.9A	2929 and 2930	Totalizer 5.3A	3001 and 3002	Totalizer 6.9A	3073 and 3074
Totalizer 2.3B	2859 and 2860	Totalizer 3.9B	2931 and 2932	Totalizer 5.3B	3003 and 3004	Totalizer 6.9B	3075 and 3076
Totalizer 2.4A	2861 and 2862	Totalizer 3.10A	2933 and 2934	Totalizer 5.4A	3005 and 3006	Totalizer 6.10A	3077 and 3078
Totalizer 2.4B	2863 and 2864	Totalizer 3.10B	2935 and 2936	Totalizer 5.4B	3007 and 3008	Totalizer 6.10B	3079 and 3080
Totalizer 2.5A	2865 and 2866	Totalizer 3.11A	2937 and 2938	Totalizer 5.5A	3009 and 3010	Totalizer 6.11A	3081 and 3082
Totalizer 2.5B	2867 and 2868	Totalizer 3.11B	2939 and 2940	Totalizer 5.5B	3011 and 3012	Totalizer 6.11B	3083 and 3084
Totalizer 2.6A	2869 and 2870	Totalizer 3.12A	2941 and 2942	Totalizer 5.6A	3013 and 3014	Totalizer 6.12A	3085 and 3086
Totalizer 2.6B	2871 and 2872	Totalizer 3.12B	2943 and 2944	Totalizer 5.6B	3015 and 3016	Totalizer 6.12B	3087 and 3088

Table 5.25 Totalizer Average Flowrate – Previous Batch

Write Access: Read only		64-bit double precision floating point, 0 to 9999999999					
Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers	Totalizer Name	Modbus Registers
Totalizer 1.1A	3101 to 3104	Totalizer 2.7A	3245 to 3248	Totalizer 4.1A	3389 to 3392	Totalizer 5.7A	3533 to 3536
Totalizer 1.1B	3105 to 3108	Totalizer 2.7B	3249 to 3252	Totalizer 4.1B	3393 to 3396	Totalizer 5.7B	3537 to 3540
Totalizer 1.2A	3109 to 3112	Totalizer 2.8A	3253 to 3256	Totalizer 4.2A	3397 to 3400	Totalizer 5.8A	3541 to 3544
Totalizer 1.2B	3113 to 3116	Totalizer 2.8B	3257 to 3260	Totalizer 4.2B	3401 to 3404	Totalizer 5.8B	3545 to 3548
Totalizer 1.3A	3117 to 3120	Totalizer 2.9A	3261 to 3264	Totalizer 4.3A	3405 to 3408	Totalizer 5.9A	3549 to 3552
Totalizer 1.3B	3121 to 3124	Totalizer 2.9B	3265 to 3268	Totalizer 4.3B	3409 to 3412	Totalizer 5.9B	3553 to 3556
Totalizer 1.4A	3125 to 3128	Totalizer 2.10A	3269 to 3272	Totalizer 4.4A	3413 to 3416	Totalizer 5.10A	3557 to 3560
Totalizer 1.4B	3129 to 3132	Totalizer 2.10B	3273 to 3276	Totalizer 4.4B	3417 to 3420	Totalizer 5.10B	3561 to 3564
Totalizer 1.5A	3133 to 3136	Totalizer 2.11A	3277 to 3280	Totalizer 4.5A	3421 to 3424	Totalizer 5.11A	3565 to 3568
Totalizer 1.5B	3137 to 3140	Totalizer 2.11B	3281 to 3284	Totalizer 4.5B	3425 to 3428	Totalizer 5.11B	3569 to 3572
Totalizer 1.6A	3141 to 3144	Totalizer 2.12A	3285 to 3288	Totalizer 4.6A	3429 to 3432	Totalizer 5.12A	3573 to 3576
Totalizer 1.6B	3145 to 3148	Totalizer 2.12B	3289 to 3292	Totalizer 4.6B	3433 to 3436	Totalizer 5.12B	3577 to 3580
Totalizer 1.7A	3149 to 3152	Totalizer 3.1A	3293 to 3296	Totalizer 4.7A	3437 to 3440	Totalizer 6.1A	3581 to 3584
Totalizer 1.7B	3153 to 3156	Totalizer 3.1B	3297 to 3300	Totalizer 4.7B	3441 to 3444	Totalizer 6.1B	3585 to 3588
Totalizer 1.8A	3157 to 3160	Totalizer 3.2A	3301 to 3304	Totalizer 4.8A	3445 to 3448	Totalizer 6.2A	3589 to 3592
Totalizer 1.8B	3161 to 3164	Totalizer 3.2B	3305 to 3308	Totalizer 4.8B	3449 to 3452	Totalizer 6.2B	3593 to 3596
Totalizer 1.9A	3165 to 3168	Totalizer 3.3A	3309 to 3312	Totalizer 4.9A	3453 to 3456	Totalizer 6.3A	3597 to 3600
Totalizer 1.9B	3169 to 3172	Totalizer 3.3B	3313 to 3316	Totalizer 4.9B	3457 to 3460	Totalizer 6.3B	3601 to 3604
Totalizer 1.10A	3173 to 3176	Totalizer 3.4A	3317 to 3320	Totalizer 4.10A	3461 to 3464	Totalizer 6.4A	3605 to 3608
Totalizer 1.10B	3177 to 3180	Totalizer 3.4B	3321 to 3324	Totalizer 4.10B	3465 to 3468	Totalizer 6.4B	3609 to 3612
Totalizer 1.11A	3181 to 3184	Totalizer 3.5A	3325 to 3328	Totalizer 4.11A	3469 to 3472	Totalizer 6.5A	3613 to 3616
Totalizer 1.11B	3185 to 3188	Totalizer 3.5B	3329 to 3332	Totalizer 4.11B	3473 to 3476	Totalizer 6.5B	3617 to 3620
Totalizer 1.12A	3189 to 3192	Totalizer 3.6A	3333 to 3336	Totalizer 4.12A	3477 to 3480	Totalizer 6.6A	3621 to 3624
Totalizer 1.12B	3193 to 3196	Totalizer 3.6B	3337 to 3340	Totalizer 4.12B	3481 to 3484	Totalizer 6.6B	3625 to 3628
Totalizer 2.1A	3197 to 3200	Totalizer 3.7A	3341 to 3344	Totalizer 5.1A	3485 to 3488	Totalizer 6.7A	3629 to 3632
Totalizer 2.1B	3201 to 3204	Totalizer 3.7B	3345 to 3348	Totalizer 5.1B	3489 to 3492	Totalizer 6.7B	3633 to 3636
Totalizer 2.2A	3205 to 3208	Totalizer 3.8A	3349 to 3352	Totalizer 5.2A	3493 to 3496	Totalizer 6.8A	3637 to 3640
Totalizer 2.2B	3209 to 3212	Totalizer 3.8B	3353 to 3356	Totalizer 5.2B	3497 to 3500	Totalizer 6.8B	3641 to 3644
Totalizer 2.3A	3213 to 3216	Totalizer 3.9A	3357 to 3360	Totalizer 5.3A	3501 to 3504	Totalizer 6.9A	3645 to 3648
Totalizer 2.3B	3217 to 3220	Totalizer 3.9B	3361 to 3364	Totalizer 5.3B	3505 to 3508	Totalizer 6.9B	3649 to 3652
Totalizer 2.4A	3221 to 3224	Totalizer 3.10A	3365 to 3368	Totalizer 5.4A	3509 to 3512	Totalizer 6.10A	3653 to 3656
Totalizer 2.4B	3225 to 3228	Totalizer 3.10B	3369 to 3372	Totalizer 5.4B	3513 to 3516	Totalizer 6.10B	3657 to 3660
Totalizer 2.5A	3229 to 3232	Totalizer 3.11A	3373 to 3376	Totalizer 5.5A	3517 to 3520	Totalizer 6.11A	3661 to 3664
Totalizer 2.5B	3233 to 3236	Totalizer 3.11B	3377 to 3380	Totalizer 5.5B	3521 to 3524	Totalizer 6.11B	3665 to 3668
Totalizer 2.6A	3237 to 3240	Totalizer 3.12A	3381 to 3384	Totalizer 5.6A	3525 to 3528	Totalizer 6.12A	3669 to 3672
Totalizer 2.6B	3241 to 3244	Totalizer 3.12B	3385 to 3388	Totalizer 5.6B	3529 to 3532	Totalizer 6.12B	3673 to 3676

Table 5.26 Totalizer Batch Total – Previous Batch

Signal		Channel Number					
		1.1	1.2	1.3	1.4	1.5	1.6
Analog input value	R	4001 and 4002	4051 and 4052	4101 and 4102	4151 and 4152	4201 and 4202	4251 and 4252
Alarm A trip	R/W	4003 and 4004	4053 and 4054	4103 and 4104	4153 and 4154	4203 and 4204	4253 and 4254
Alarm B trip	R/W	4005 and 4006	4055 and 4056	4105 and 4106	4155 and 4156	4205 and 4206	4255 and 4256
Alarm C trip	R/W	4007 and 4008	4057 and 4058	4107 and 4108	4157 and 4158	4207 and 4208	4257 and 4258
Alarm D trip	R/W	4009 and 4010	4059 and 4060	4109 and 4110	4159 and 4160	4209 and 4210	4259 and 4260
Totalizer A max. flowrate	R	4011 and 4012	4061 and 4062	4111 and 4112	4161 and 4162	4211 and 4212	4261 and 4262
Totalizer B max. flowrate	R	4013 and 4014	4063 and 4064	4113 and 4114	4163 and 4164	4213 and 4214	4263 and 4264
Totalizer A min. flowrate	R	4015 and 4016	4065 and 4066	4115 and 4116	4165 and 4166	4215 and 4216	4265 and 4266
Totalizer B min. flowrate	R	4017 and 4018	4067 and 4068	4117 and 4118	4167 and 4168	4217 and 4218	4267 and 4268
Totalizer A average flowrate	R	4019 and 4020	4069 and 4070	4119 and 4120	4169 and 4170	4219 and 4220	4269 and 4270
Totalizer B average flowrate	R	4021 and 4022	4071 and 4072	4121 and 4122	4171 and 4172	4221 and 4222	4271 and 4272
Totalizer A batch total	R	4023 to 4026	4073 to 4076	4123 to 4126	4173 to 4176	4223 to 4226	4273 to 4276
Totalizer B batch total	R	4027 to 4030	4077 to 4080	4127 to 4130	4177 to 4180	4227 to 4230	4277 to 4280
Totalizer A max. flowrate (previous batch)	R	4031 and 4032	4081 and 4082	4131 and 4132	4181 and 4182	4231 and 4232	4281 and 4282
Totalizer B max. flowrate (previous batch)	R	4033 and 4034	4083 and 4084	4133 and 4134	4183 and 4184	4233 and 4234	4283 and 4284
Totalizer A min. flowrate (previous batch)	R	4035 and 4036	4085 and 4086	4135 and 4136	4185 and 4186	4235 and 4236	4285 and 4286
Totalizer B min. flowrate (previous batch)	R	4037 and 4038	4087 and 4088	4137 and 4138	4187 and 4188	4237 and 4238	4287 and 4288
Totalizer A average flowrate (previous batch)	R	4039 and 4040	4089 and 4090	4139 and 4140	4189 and 4190	4239 and 4240	4289 and 4290
Totalizer B average flowrate (previous batch)	R	4041 and 4042	4091 and 4092	4141 and 4142	4191 and 4192	4241 and 4242	4291 and 4292
Totalizer A batch total (previous batch)	R	4043 to 4046	4093 to 4096	4143 to 4146	4193 to 4196	4243 to 4246	4293 to 4296
Totalizer B batch total (previous batch)	R	4047 to 4050	4097 to 4100	4147 to 4150	4197 to 4200	4247 to 4250	4297 to 4300

Table 5.27 Registers by Channel – Process Group 1, Channels 1 to 6

Signal		Channel Number					
		1.7	1.8	1.9	1.10	1.11	1.12
Analog input value	R	4301 and 4302	4351 and 4352	4401 and 4402	4451 and 4452	4501 and 4502	4551 and 4552
Alarm A trip	R/W	4303 and 4304	4353 and 4354	4403 and 4404	4453 and 4454	4503 and 4504	4553 and 4554
Alarm B trip	R/W	4305 and 4306	4355 and 4356	4405 and 4406	4455 and 4456	4505 and 4506	4555 and 4556
Alarm C trip	R/W	4307 and 4308	4357 and 4358	4407 and 4408	4457 and 4458	4507 and 4508	4557 and 4558
Alarm D trip	R/W	4309 and 4310	4359 and 4360	4409 and 4410	4459 and 4460	4509 and 4510	4559 and 4560
Totalizer A max. flowrate	R	4311 and 4312	4361 and 4362	4411 and 4412	4461 and 4462	4511 and 4512	4561 and 4562
Totalizer B max. flowrate	R	4313 and 4314	4363 and 4364	4413 and 4414	4463 and 4464	4513 and 4514	4563 and 4564
Totalizer A min. flowrate	R	4315 and 4316	4365 and 4366	4415 and 4416	4465 and 4466	4515 and 4516	4565 and 4566
Totalizer B min. flowrate	R	4317 and 4318	4367 and 4368	4417 and 4418	4467 and 4468	4517 and 4518	4567 and 4568
Totalizer A average flowrate	R	4319 and 4320	4369 and 4370	4419 and 4420	4469 and 4470	4519 and 4520	4569 and 4570
Totalizer B average flowrate	R	4321 and 4322	4371 and 4372	4421 and 4422	4471 and 4472	4521 and 4522	4571 and 4572
Totalizer A batch total	R	4323 to 4326	4373 to 4376	4423 to 4426	4473 to 4476	4523 to 4526	4573 to 4576
Totalizer B batch total	R	4327 to 4330	4377 to 4380	4427 to 4430	4477 to 4480	4527 to 4530	4577 to 4580
Totalizer A max. flowrate (previous batch)	R	4331 and 4332	4381 and 4382	4431 and 4432	4481 and 4482	4531 and 4532	4581 and 4582
Totalizer B max. flowrate (previous batch)	R	4333 and 4334	4383 and 4384	4433 and 4434	4483 and 4484	4533 and 4534	4583 and 4584
Totalizer A min. flowrate (previous batch)	R	4335 and 4336	4385 and 4386	4435 and 4436	4485 and 4486	4535 and 4536	4585 and 4586
Totalizer B min. flowrate (previous batch)	R	4337 and 4338	4387 and 4388	4437 and 4438	4487 and 4488	4537 and 4538	4587 and 4588
Totalizer A average flowrate (previous batch)	R	4339 and 4340	4389 and 4390	4439 and 4440	4489 and 4490	4539 and 4540	4589 and 4590
Totalizer B average flowrate (previous batch)	R	4341 and 4342	4391 and 4392	4441 and 4442	4491 and 4492	4541 and 4542	4591 and 4592
Totalizer A batch total (previous batch)	R	4343 to 4346	4393 to 4396	4443 to 4446	4493 to 4496	4543 to 4546	4593 to 4596
Totalizer B batch total (previous batch)	R	4347 to 4350	4397 to 4400	4447 to 4450	4497 to 4500	4547 to 4550	4597 to 4600

Table 5.28 Registers by Channel – Process Group 1, Channels 7 to 12

Signal		Channel Number					
		2.1	2.2	2.3	2.4	2.5	2.6
Analog input value	R	4601 and 4602	4651 and 4652	4701 and 4702	4751 and 4752	4801 and 4802	4851 and 4852
Alarm A trip	R/W	4603 and 4604	4653 and 4654	4703 and 4704	4753 and 4754	4803 and 4804	4853 and 4854
Alarm B trip	R/W	4605 and 4606	4655 and 4656	4705 and 4706	4755 and 4756	4805 and 4806	4855 and 4856
Alarm C trip	R/W	4607 and 4608	4657 and 4658	4707 and 4708	4757 and 4758	4807 and 4808	4857 and 4858
Alarm D trip	R/W	4609 and 4610	4659 and 4660	4709 and 4710	4759 and 4760	4809 and 4810	4859 and 4860
Totalizer A max. flowrate	R	4611 and 4612	4661 and 4662	4711 and 4712	4761 and 4762	4811 and 4812	4861 and 4862
Totalizer B max. flowrate	R	4613 and 4614	4663 and 4664	4713 and 4714	4763 and 4764	4813 and 4814	4863 and 4864
Totalizer A min. flowrate	R	4615 and 4616	4665 and 4666	4715 and 4716	4765 and 4766	4815 and 4816	4865 and 4866
Totalizer B min. flowrate	R	4617 and 4618	4667 and 4668	4717 and 4718	4767 and 4768	4817 and 4818	4867 and 4868
Totalizer A average flowrate	R	4619 and 4620	4669 and 4670	4719 and 4720	4769 and 4770	4819 and 4820	4869 and 4870
Totalizer B average flowrate	R	4621 and 4622	4671 and 4672	4721 and 4722	4771 and 4772	4821 and 4822	4871 and 4872
Totalizer A batch total	R	4623 to 4626	4673 to 4676	4723 to 4726	4773 to 4776	4823 to 4826	4873 to 4876
Totalizer B batch total	R	4627 to 4630	4677 to 4680	4727 to 4730	4777 to 4780	4827 to 4830	4877 to 4880
Totalizer A max. flowrate (previous batch)	R	4631 and 4632	4681 and 4682	4731 and 4732	4781 and 4782	4831 and 4832	4881 and 4882
Totalizer B max. flowrate (previous batch)	R	4633 and 4634	4683 and 4684	4733 and 4734	4783 and 4784	4833 and 4834	4883 and 4884
Totalizer A min. flowrate (previous batch)	R	4635 and 4636	4685 and 4686	4735 and 4736	4785 and 4786	4835 and 4836	4885 and 4886
Totalizer B min. flowrate (previous batch)	R	4637 and 4638	4687 and 4688	4737 and 4738	4787 and 4788	4837 and 4838	4887 and 4888
Totalizer A average flowrate (previous batch)	R	4639 and 4640	4689 and 4690	4739 and 4740	4789 and 4790	4839 and 4840	4889 and 4890
Totalizer B average flowrate (previous batch)	R	4641 and 4642	4691 and 4692	4741 and 4742	4791 and 4792	4841 and 4842	4891 and 4892
Totalizer A batch total (previous batch)	R	4643 to 4646	4693 to 4696	4743 to 4746	4793 to 4796	4843 to 4846	4893 to 4896
Totalizer B batch total (previous batch)	R	4647 to 4650	4697 to 4700	4747 to 4750	4797 to 4800	4847 to 4850	4897 to 4900

Table 5.29 Registers by Channel – Process Group 2, Channels 1 to 6

Signal		Channel Number					
		2.7	2.8	2.9	2.10	2.11	2.12
Analog input value	R	4901 and 4902	4951 and 4952	5001 and 5002	5051 and 5052	5101 and 5102	5151 and 5152
Alarm A trip	R/W	4903 and 4904	4953 and 4954	5003 and 5004	5053 and 5054	5103 and 5104	5153 and 5154
Alarm B trip	R/W	4905 and 4906	4955 and 4956	5005 and 5006	5055 and 5056	5105 and 5106	5155 and 5156
Alarm C trip	R/W	4907 and 4908	4957 and 4958	5007 and 5008	5057 and 5058	5107 and 5108	5157 and 5158
Alarm D trip	R/W	4909 and 4910	4959 and 4960	5009 and 5010	5059 and 5060	5109 and 5110	5159 and 5160
Totalizer A max. flowrate	R	4911 and 4912	4961 and 4962	5011 and 5012	5061 and 5062	5111 and 5112	5161 and 5162
Totalizer B max. flowrate	R	4913 and 4914	4963 and 4964	5013 and 5014	5063 and 5064	5113 and 5114	5163 and 5164
Totalizer A min. flowrate	R	4915 and 4916	4965 and 4966	5015 and 5016	5065 and 5066	5115 and 5116	5165 and 5166
Totalizer B min. flowrate	R	4917 and 4918	4967 and 4968	5017 and 5018	5067 and 5068	5117 and 5118	5167 and 5168
Totalizer A average flowrate	R	4919 and 4920	4969 and 4970	5019 and 5020	5069 and 5070	5119 and 5120	5169 and 5170
Totalizer B average flowrate	R	4921 and 4922	4971 and 4972	5021 and 5022	5071 and 5072	5121 and 5122	5171 and 5172
Totalizer A batch total	R	4923 to 4926	4973 to 4976	5024 and 5025	5073 to 5076	5123 to 5126	5173 to 5176
Totalizer B batch total	R	4927 to 4930	4977 to 4980	5028 and 5029	5077 to 5080	5127 to 5130	5177 to 5180
Totalizer A max. flowrate (previous batch)	R	4931 and 4932	4981 and 4982	5031 and 5032	5081 and 5082	5131 and 5132	5181 and 5182
Totalizer B max. flowrate (previous batch)	R	4933 and 4934	4983 and 4984	5033 and 5034	5083 and 5084	5133 and 5134	5183 and 5184
Totalizer A min. flowrate (previous batch)	R	4935 and 4936	4985 and 4986	5035 and 5036	5085 and 5086	5135 and 5136	5185 and 5186
Totalizer B min. flowrate (previous batch)	R	4937 and 4938	4987 and 4988	5037 and 5038	5087 and 5088	5137 and 5138	5187 and 5188
Totalizer A average flowrate (previous batch)	R	4939 and 4940	4989 and 4990	5039 and 5040	5089 and 5090	5139 and 5140	5189 and 5190
Totalizer B average flowrate (previous batch)	R	4941 and 4942	4391 and 4392	5041 and 5042	5091 and 5092	5141 and 5142	5191 and 5192
Totalizer A batch total (previous batch)	R	4943 to 4946	4993 to 4996	5043 to 5046	5093 to 5096	5143 to 5146	5193 to 5196
Totalizer B batch total (previous batch)	R	4947 to 4950	4997 to 5000	5047 to 5050	5097 to 5100	5147 to 5150	5197 to 5200

Table 5.30 Registers by Channel – Process Group 2, Channels 7 to 12

Signal		Channel Number					
		3.1	3.2	3.3	3.4	3.5	3.6
Analog input value	R	5201 and 5202	5251 and 5252	5301 and 5302	5351 and 5352	5401 and 5402	5451 and 5452
Alarm A trip	R/W	5203 and 5204	5253 and 5254	5303 and 5304	5353 and 5354	5403 and 5404	5453 and 5454
Alarm B trip	R/W	5205 and 5206	5255 and 5256	5305 and 5306	5355 and 5356	5405 and 5406	5455 and 5456
Alarm C trip	R/W	5207 and 5208	5257 and 5258	5307 and 5308	5357 and 5358	5407 and 5408	5457 and 5458
Alarm D trip	R/W	5209 and 5210	5259 and 5260	5309 and 5310	5359 and 5360	5409 and 5410	5459 and 5460
Totalizer A max. flowrate	R	5211 and 5212	5261 and 5262	5311 and 5312	5361 and 5362	5411 and 5412	5461 and 5462
Totalizer B max. flowrate	R	5213 and 5214	5263 and 5264	5313 and 5314	5363 and 5364	5413 and 5414	5463 and 5464
Totalizer A min. flowrate	R	5215 and 5216	5265 and 5266	5315 and 5316	5365 and 5366	5415 and 5416	5465 and 5466
Totalizer B min. flowrate	R	5217 and 5218	5267 and 5268	5317 and 5318	5367 and 5368	5417 and 5418	5467 and 5468
Totalizer A average flowrate	R	5219 and 5220	5269 and 5270	5319 and 5320	5369 and 5370	5419 and 5420	5469 and 5470
Totalizer B average flowrate	R	5221 and 5222	5271 and 5272	5321 and 5322	5371 and 5372	5421 and 5422	5471 and 5472
Totalizer A batch total	R	5223 to 5226	5273 to 5276	5323 to 5326	5373 to 5376	5423 to 5426	5473 to 5476
Totalizer B batch total	R	5227 to 5230	5277 to 5280	5327 to 5330	5377 to 5380	5427 to 5430	5477 to 5480
Totalizer A max. flowrate (previous batch)	R	5231 and 5232	5281 and 5282	5331 and 5332	5381 and 5382	5431 and 5432	5481 and 5482
Totalizer B max. flowrate (previous batch)	R	5233 and 5234	5283 and 5284	5333 and 5334	5383 and 5384	5433 and 5434	5483 and 5484
Totalizer A min. flowrate (previous batch)	R	5235 and 5236	5285 and 5286	5335 and 5336	5385 and 5386	5435 and 5436	5485 and 5486
Totalizer B min. flowrate (previous batch)	R	5237 and 5238	5287 and 5288	5337 and 5338	5387 and 5388	5437 and 5438	5487 and 5488
Totalizer A average flowrate (previous batch)	R	5239 and 5240	5289 and 5290	5339 and 5340	5389 and 5390	5439 and 5440	5489 and 5490
Totalizer B average flowrate (previous batch)	R	5241 and 5242	5291 and 5292	5341 and 5342	5391 and 5392	5441 and 5442	5491 and 5492
Totalizer A batch total (previous batch)	R	5243 to 5246	5293 to 5296	5343 to 5346	5393 to 5396	5443 to 5446	5493 to 5496
Totalizer B batch total (previous batch)	R	5247 to 5250	5297 to 5300	5347 to 5350	5397 to 5400	5447 to 5450	5497 to 5500

Table 5.31 Registers by Channel – Process Group 3, Channels 1 to 6

Signal		Channel Number					
		3.7	3.8	3.9	3.10	3.11	3.12
Analog input value	R	5501 and 5502	5551 and 5552	5601 and 5602	5651 and 5652	5701 and 5702	5751 and 5752
Alarm A trip	R/W	5503 and 5504	5553 and 5554	5603 and 5604	5653 and 5654	5703 and 5704	5753 and 5754
Alarm B trip	R/W	5505 and 5506	5555 and 5556	5605 and 5606	5655 and 5656	5705 and 5706	5755 and 5756
Alarm C trip	R/W	5507 and 5508	5557 and 5558	5607 and 5608	5657 and 5658	5707 and 5708	5757 and 5758
Alarm D trip	R/W	5509 and 5510	5559 and 5560	5609 and 5610	5659 and 5660	5709 and 5710	5759 and 5760
Totalizer A max. flowrate	R	5511 and 5512	5561 and 5562	5611 and 5612	5661 and 5662	5711 and 5712	5761 and 5762
Totalizer B max. flowrate	R	5513 and 5514	5563 and 5564	5613 and 5614	5663 and 5664	5713 and 5714	5763 and 5764
Totalizer A min. flowrate	R	5515 and 5516	5565 and 5566	5615 and 5616	5665 and 5666	5715 and 5716	5765 and 5766
Totalizer B min. flowrate	R	5517 and 5518	5567 and 5568	5617 and 5618	5667 and 5668	5717 and 5718	5767 and 5768
Totalizer A average flowrate	R	5519 and 5520	5569 and 5570	5619 and 5620	5669 and 5670	5719 and 5720	5769 and 5770
Totalizer B average flowrate	R	5521 and 5522	5571 and 5572	5621 and 5622	5671 and 5672	5721 and 5722	5771 and 5772
Totalizer A batch total	R	5523 to 5526	5573 to 5576	5623 to 5626	5673 to 5676	5723 to 5726	5773 to 5776
Totalizer B batch total	R	5527 to 5530	5577 to 5580	5627 to 5630	5677 to 5680	5727 to 5730	5777 to 5780
Totalizer A max. flowrate (previous batch)	R	5531 and 5532	5581 and 5582	5631 and 5632	5681 and 5682	5731 and 5732	5781 and 5782
Totalizer B max. flowrate (previous batch)	R	5533 and 5534	5583 and 5584	5633 and 5634	5683 and 5684	5733 and 5734	5783 and 5784
Totalizer A min. flowrate (previous batch)	R	5535 and 5536	5585 and 5586	5635 and 5636	5685 and 5686	5735 and 5736	5785 and 5786
Totalizer B min. flowrate (previous batch)	R	5537 and 5538	5587 and 5588	5637 and 5638	5687 and 5688	5737 and 5738	5787 and 5788
Totalizer A average flowrate (previous batch)	R	5539 and 5540	5589 and 5590	5639 and 5640	5689 and 5690	5739 and 5740	5789 and 5790
Totalizer B average flowrate (previous batch)	R	5541 and 5542	5591 and 5592	5641 and 5642	5691 and 5692	5741 and 5742	5791 and 5792
Totalizer A batch total (previous batch)	R	5543 to 5546	5593 to 5596	5643 to 5646	5693 to 5696	5743 to 5746	5793 to 5796
Totalizer B batch total (previous batch)	R	5547 to 5550	5597 to 5600	5647 to 5650	5697 to 5700	5747 to 5750	5797 to 5800

Table 5.32 Registers by Channel – Process Group 3, Channels 7 to 12

Signal		Channel Number					
		4.1	4.2	4.3	4.4	4.5	4.6
Analog input value	R	5801 and 5802	5851 and 5852	5901 and 5902	5951 and 5952	6001 and 6002	6051 and 6052
Alarm A trip	R/W	5803 and 5804	5853 and 5854	5903 and 5904	5953 and 5954	6003 and 6004	6053 and 6054
Alarm B trip	R/W	5805 and 5806	5855 and 5856	5905 and 5906	5955 and 5956	6005 and 6006	6055 and 6056
Alarm C trip	R/W	5807 and 5808	5857 and 5858	5907 and 5908	5957 and 5958	6007 and 6008	6057 and 6058
Alarm D trip	R/W	5809 and 5810	5859 and 5860	5909 and 5910	5959 and 5960	6009 and 6010	6059 and 6060
Totalizer A max. flowrate	R	5811 and 5812	5861 and 5862	5911 and 5912	5961 and 5962	6011 and 6012	6061 and 6062
Totalizer B max. flowrate	R	5813 and 5814	5863 and 5864	5913 and 5914	5963 and 5964	6013 and 6014	6063 and 6064
Totalizer A min. flowrate	R	5815 and 5816	5865 and 5866	5915 and 5916	5965 and 5966	6015 and 6016	6065 and 6066
Totalizer B min. flowrate	R	5817 and 5818	5867 and 5868	5917 and 5918	5967 and 5968	6017 and 6018	6067 and 6068
Totalizer A average flowrate	R	5819 and 5820	5869 and 5870	5919 and 5920	5969 and 5970	6019 and 6020	6069 and 6070
Totalizer B average flowrate	R	5821 and 5822	5871 and 5872	5921 and 5922	5971 and 5972	6021 and 6022	6071 and 6072
Totalizer A batch total	R	5823 to 5826	5873 to 5876	5943 to 5946	5973 to 5976	6023 to 6026	6073 to 6076
Totalizer B batch total	R	5827 to 5830	5877 to 5880	5947 to 5950	5977 to 5980	6027 to 6030	6077 to 6080
Totalizer A max. flowrate (previous batch)	R	5831 and 5832	5881 and 5882	5931 and 5932	5981 and 5982	6031 and 6032	6081 and 6082
Totalizer B max. flowrate (previous batch)	R	5833 and 5834	5883 and 5884	5933 and 5934	5983 and 5984	6033 and 6034	6083 and 6084
Totalizer A min. flowrate (previous batch)	R	5835 and 5836	5885 and 5886	5935 and 5936	5985 and 5986	6035 and 6036	6085 and 6086
Totalizer B min. flowrate (previous batch)	R	5837 and 5838	5887 and 5888	5937 and 5938	5987 and 5988	6037 and 6038	6087 and 6088
Totalizer A average flowrate (previous batch)	R	5839 and 5840	5889 and 5890	5939 and 5940	5989 and 5990	6039 and 6040	6089 and 6090
Totalizer B average flowrate (previous batch)	R	5841 and 5842	5891 and 5892	5941 and 5942	5991 and 5992	6041 and 6042	6091 and 6092
Totalizer A batch total (previous batch)	R	5843 to 5846	5893 to 5896	5943 to 5946	5993 to 5996	6043 to 6046	6093 to 6096
Totalizer B batch total (previous batch)	R	5847 to 5850	5897 to 5900	5947 to 5950	5997 to 6000	6047 to 6050	6097 to 6100

Table 5.33 Registers by Channel – Process Group 4, Channels 1 to 6

Signal		Channel Number					
		4.7	4.8	4.9	4.10	4.11	4.12
Analog input value	R	6101 and 6102	6151 and 6152	6201 and 6202	6251 and 6252	6301 and 6302	6351 and 6352
Alarm A trip	R/W	6103 and 6104	6153 and 6154	6203 and 6204	6253 and 6254	6303 and 6304	6353 and 6354
Alarm B trip	R/W	6105 and 6106	6155 and 6156	6205 and 6206	6255 and 6256	6305 and 6306	6355 and 6356
Alarm C trip	R/W	6107 and 6108	6157 and 6158	6207 and 6208	6257 and 6258	6307 and 6308	6357 and 6358
Alarm D trip	R/W	6109 and 6110	6159 and 6160	6209 and 6210	6259 and 6260	6309 and 6310	6359 and 6360
Totalizer A max. flowrate	R	6111 and 6112	6161 and 6162	6211 and 6212	6261 and 6262	6311 and 6312	6361 and 6362
Totalizer B max. flowrate	R	6113 and 6114	6163 and 6164	6213 and 6214	6263 and 6264	6313 and 6314	6363 and 6364
Totalizer A min. flowrate	R	6115 and 6116	6165 and 6166	6215 and 6216	6265 and 6266	6315 and 6316	6365 and 6366
Totalizer B min. flowrate	R	6117 and 6118	6167 and 6168	6217 and 6218	6267 and 6268	6317 and 6318	6367 and 6368
Totalizer A average flowrate	R	6119 and 6120	6169 and 6170	6219 and 6220	6269 and 6270	6319 and 6320	6369 and 6370
Totalizer B average flowrate	R	6121 and 6122	6171 and 6172	6221 and 6222	6271 and 6272	6321 and 6322	6371 and 6372
Totalizer A batch total	R	6123 to 6126	6173 to 6176	6223 to 6226	6273 to 6276	6323 to 6326	6373 to 6376
Totalizer B batch total	R	6127 to 6130	6177 to 6180	6227 to 6230	6277 to 6280	6327 to 6330	6377 to 6380
Totalizer A max. flowrate (previous batch)	R	6131 and 6132	6181 and 6182	6231 and 6232	6281 and 6282	6331 and 6332	6381 and 6382
Totalizer B max. flowrate (previous batch)	R	6133 and 6134	6183 and 6184	6233 and 6234	6283 and 6284	6333 and 6334	6383 and 6384
Totalizer A min. flowrate (previous batch)	R	6135 and 6136	6185 and 6186	6235 and 6236	6285 and 6286	6335 and 6336	6385 and 6386
Totalizer B min. flowrate (previous batch)	R	6137 and 6138	6187 and 6188	6237 and 6238	6287 and 6288	6337 and 6338	6387 and 6388
Totalizer A average flowrate (previous batch)	R	6139 and 6140	6189 and 6190	6239 and 6240	6289 and 6290	6339 and 6340	6389 and 6390
Totalizer B average flowrate (previous batch)	R	6141 and 6142	6191 and 6192	6241 and 6242	6291 and 6292	6341 and 6342	6391 and 6392
Totalizer A batch total (previous batch)	R	6143 to 6146	6193 to 6196	6243 to 6246	6293 to 6296	6343 to 6346	6393 to 6396
Totalizer B batch total (previous batch)	R	6147 to 6150	6197 to 6200	6247 to 6250	6297 to 6300	6347 to 6350	6397 to 6400

Table 5.34 Registers by Channel – Process Group 4, Channels 7 to 12

Signal		Channel Number					
		5.1	5.2	5.3	5.4	5.5	5.6
Analog input value	R	6401 and 6402	6451 and 6452	6501 and 6502	6551 and 6552	6601 and 6602	6651 and 6652
Alarm A trip	R/W	6403 and 6404	6453 and 6454	6503 and 6504	6553 and 6554	6603 and 6604	6653 and 6654
Alarm B trip	R/W	6405 and 6406	6455 and 6456	6505 and 6506	6555 and 6556	6605 and 6606	6655 and 6656
Alarm C trip	R/W	6407 and 6408	6457 and 6458	6507 and 6508	6557 and 6558	6607 and 6608	6657 and 6658
Alarm D trip	R/W	6409 and 6410	6459 and 6460	6509 and 6510	6559 and 6560	6609 and 6610	6659 and 6660
Totalizer A max. flowrate	R	6411 and 6412	6461 and 6462	6511 and 6512	6561 and 6562	6611 and 6612	6661 and 6662
Totalizer B max. flowrate	R	6413 and 6414	6463 and 6464	6513 and 6514	6563 and 6564	6613 and 6614	6663 and 6664
Totalizer A min. flowrate	R	6415 and 6416	6465 and 6466	6515 and 6516	6565 and 6566	6615 and 6616	6665 and 6666
Totalizer B min. flowrate	R	6417 and 6418	6467 and 6468	6517 and 6518	6567 and 6568	6617 and 6618	6667 and 6668
Totalizer A average flowrate	R	6419 and 6420	6469 and 6470	6519 and 6520	6569 and 6570	6619 and 6620	6669 and 6670
Totalizer B average flowrate	R	6421 and 6422	6471 and 6472	6521 and 6522	6571 and 6572	6621 and 6622	6671 and 6672
Totalizer A batch total	R	6423 to 6426	6473 to 6476	6523 to 6526	6573 to 6576	6623 to 6626	6673 to 6676
Totalizer B batch total	R	6427 to 6430	6477 to 6480	6527 to 6530	6577 to 6580	6627 to 6630	6677 to 6680
Totalizer A max. flowrate (previous batch)	R	6431 and 6432	6481 and 6482	6531 and 6532	6581 and 6582	6631 and 6632	6681 and 6682
Totalizer B max. flowrate (previous batch)	R	6433 and 6434	6483 and 6484	6533 and 6534	6583 and 6584	6633 and 6634	6683 and 6684
Totalizer A min. flowrate (previous batch)	R	6435 and 6436	6485 and 6486	6535 and 6536	6585 and 6586	6635 and 6636	6685 and 6686
Totalizer B min. flowrate (previous batch)	R	6437 and 6438	6487 and 6488	6537 and 6538	6587 and 6588	6637 and 6638	6687 and 6688
Totalizer A average flowrate (previous batch)	R	6439 and 6440	6489 and 6490	6539 and 6540	6589 and 6590	6639 and 6640	6689 and 6690
Totalizer B average flowrate (previous batch)	R	6441 and 6442	6491 and 6492	6541 and 6542	6591 and 6592	6641 and 6642	6691 and 6692
Totalizer A batch total (previous batch)	R	6443 to 6446	6493 to 6496	6543 to 6546	6593 to 6596	6643 to 6646	6693 to 6696
Totalizer B batch total (previous batch)	R	6447 to 6450	6497 to 6500	6547 to 6550	6597 to 6600	6647 to 6650	6697 to 6700

Table 5.35 Registers by Channel – Process Group 5, Channels 1 to 6

Signal		Channel Number					
		5.7	5.8	5.9	5.10	5.11	5.12
Analog input value	R	6701 and 6702	6751 and 6752	6801 and 6802	6851 and 6852	6901 and 6902	6951 and 6952
Alarm A trip	R/W	6703 and 6704	6753 and 6754	6803 and 6804	6853 and 6854	6903 and 6904	6953 and 6954
Alarm B trip	R/W	6705 and 6706	6755 and 6756	6805 and 6806	6855 and 6856	6905 and 6906	6955 and 6956
Alarm C trip	R/W	6707 and 6708	6757 and 6758	6807 and 6808	6857 and 6858	6907 and 6908	6957 and 6958
Alarm D trip	R/W	6709 and 6710	6759 and 6760	6809 and 6810	6859 and 6860	6909 and 6910	6959 and 6960
Totalizer A max. flowrate	R	6711 and 6712	6761 and 6762	6811 and 6812	6861 and 6862	6911 and 6912	6961 and 6962
Totalizer B max. flowrate	R	6713 and 6714	6763 and 6764	6813 and 6814	6863 and 6864	6913 and 6914	6963 and 6964
Totalizer A min. flowrate	R	6715 and 6716	6765 and 6766	6815 and 6816	6865 and 6866	6915 and 6916	6965 and 6966
Totalizer B min. flowrate	R	6717 and 6718	6767 and 6768	6817 and 6818	6867 and 6868	6917 and 6918	6967 and 6968
Totalizer A average flowrate	R	6719 and 6720	6769 and 6770	6819 and 6820	6869 and 6870	6919 and 6920	6969 and 6970
Totalizer B average flowrate	R	6721 and 6722	6771 and 6772	6821 and 6822	6871 and 6872	6921 and 6922	6971 and 6972
Totalizer A batch total	R	6723 to 6726	6773 to 6776	6823 to 6826	6873 to 6876	6923 to 6926	6973 to 6976
Totalizer B batch total	R	6727 to 6730	6777 to 6780	6827 to 6830	6877 to 6880	6927 to 6930	6977 to 6980
Totalizer A max. flowrate (previous batch)	R	6731 and 6732	6781 and 6782	6831 and 6832	6881 and 6882	6931 and 6932	6981 and 6982
Totalizer B max. flowrate (previous batch)	R	6733 and 6734	6783 and 6784	6833 and 6834	6883 and 6884	6933 and 6934	6983 and 6984
Totalizer A min. flowrate (previous batch)	R	6735 and 6736	6785 and 6786	6835 and 6836	6885 and 6886	6935 and 6936	6985 and 6986
Totalizer B min. flowrate (previous batch)	R	6737 and 6738	6787 and 6788	6837 and 6838	6887 and 6888	6937 and 6938	6987 and 6988
Totalizer A average flowrate (previous batch)	R	6739 and 6740	6789 and 6790	6839 and 6840	6889 and 6890	6939 and 6940	6989 and 6990
Totalizer B average flowrate (previous batch)	R	6741 and 6742	6791 and 6792	6841 and 6842	6891 and 6892	6941 and 6942	6991 and 6992
Totalizer A batch total (previous batch)	R	6743 to 6746	6793 to 6796	6843 to 6846	6893 to 6896	6943 to 6946	6993 to 6996
Totalizer B batch total (previous batch)	R	6747 to 6750	6797 to 6800	6847 to 6850	6897 to 6900	6947 to 6950	6997 to 7000

Table 5.36 Registers by Channel – Process Group 5, Channels 7 to 12

Signal		Channel Number					
		6.1	6.2	6.3	6.4	6.6	6.6
Analog input value	R	7001 and 7002	7051 and 7052	7101 and 7102	7151 and 7152	7201 and 7202	7251 and 7252
Alarm A trip	R/W	7003 and 7004	7053 and 7054	7103 and 7104	7153 and 7154	7203 and 7204	7253 and 7254
Alarm B trip	R/W	7005 and 7006	7055 and 7056	7105 and 7106	7155 and 7156	7205 and 7206	7255 and 7256
Alarm C trip	R/W	7007 and 7008	7057 and 7058	7107 and 7108	7157 and 7158	7207 and 7208	7257 and 7258
Alarm D trip	R/W	7009 and 7010	7059 and 7060	7109 and 7110	7159 and 7160	7209 and 7210	7259 and 7260
Totalizer A max. flowrate	R	7011 and 7012	7061 and 7062	7111 and 7112	7161 and 7162	7211 and 7212	7261 and 7262
Totalizer B max. flowrate	R	7013 and 7014	7063 and 7064	7113 and 7114	7163 and 7164	7213 and 7214	7263 and 7264
Totalizer A min. flowrate	R	7015 and 7016	7065 and 7066	7115 and 7116	7165 and 7166	7215 and 7216	7265 and 7266
Totalizer B min. flowrate	R	7017 and 7018	7067 and 7068	7117 and 7118	7167 and 7168	7217 and 7218	7267 and 7268
Totalizer A average flowrate	R	7019 and 7020	7069 and 7070	7119 and 7120	7169 and 7170	7219 and 7220	7269 and 7270
Totalizer B average flowrate	R	7021 and 7022	7071 and 7072	7121 and 7122	7171 and 7172	7221 and 7222	7271 and 7272
Totalizer A batch total	R	7023 to 7026	7073 to 7076	7123 to 7126	7173 to 7176	7223 to 7226	7273 to 7276
Totalizer B batch total	R	7027 to 7030	7077 to 7080	7127 to 7130	7177 to 7180	7227 to 7230	7277 to 7280
Totalizer A max. flowrate (previous batch)	R	7031 and 7032	7081 and 7082	7131 and 7132	7181 and 7182	7231 and 7232	7281 and 7282
Totalizer B max. flowrate (previous batch)	R	7033 and 7034	7083 and 7084	7133 and 7134	7183 and 7184	7233 and 7234	7283 and 7284
Totalizer A min. flowrate (previous batch)	R	7035 and 7036	7085 and 7086	7135 and 7136	7185 and 7186	7235 and 7236	7285 and 7286
Totalizer B min. flowrate (previous batch)	R	7037 and 7038	7087 and 7088	7137 and 7138	7187 and 7188	7237 and 7238	7287 and 7288
Totalizer A average flowrate (previous batch)	R	7039 and 7040	7089 and 7090	7139 and 7140	7189 and 7190	7239 and 7240	7289 and 7290
Totalizer B average flowrate (previous batch)	R	5241 and 5242	7091 and 7092	7141 and 7142	7191 and 7192	7241 and 7242	7291 and 7292
Totalizer A batch total (previous batch)	R	7043 to 7046	7093 to 7096	7143 to 7146	7193 to 7196	7243 to 7246	7293 to 7296
Totalizer B batch total (previous batch)	R	7047 to 7050	7097 to 7100	7147 to 7150	7197 to 7200	7247 to 7250	7297 to 7300

Table 5.37 Registers by Channel – Process Group 6, Channels 1 to 6

Signal		Channel Number					
		6.7	6.8	6.9	6.10	6.11	6.12
Analog input value	R	7301 and 7302	7351 and 7352	7401 and 7402	7451 and 7452	7501 and 7502	7551 and 7552
Alarm A trip	R/W	7303 and 7304	7353 and 7354	7403 and 7404	7453 and 7454	7503 and 7504	7553 and 7554
Alarm B trip	R/W	7305 and 7306	7355 and 7356	7405 and 7406	7455 and 7456	7505 and 7506	7555 and 7556
Alarm C trip	R/W	7307 and 7308	7357 and 7358	7407 and 7408	7457 and 7458	7507 and 7508	7557 and 7558
Alarm D trip	R/W	7309 and 7310	7359 and 7360	7409 and 7410	7459 and 7460	7509 and 7510	7559 and 7560
Totalizer A max. flowrate	R	7311 and 7312	7361 and 7362	7411 and 7412	7461 and 7462	7511 and 7512	7561 and 7562
Totalizer B max. flowrate	R	7313 and 7314	7363 and 7364	7413 and 7414	7463 and 7464	7513 and 7514	7563 and 7564
Totalizer A min. flowrate	R	7315 and 7316	7365 and 7366	7415 and 7416	7465 and 7466	7515 and 7516	7565 and 7566
Totalizer B min. flowrate	R	7317 and 7318	7367 and 7368	7417 and 7418	7467 and 7468	7517 and 7518	7567 and 7568
Totalizer A average flowrate	R	7319 and 7320	7369 and 7370	7419 and 7420	7469 and 7470	7519 and 7520	7569 and 7570
Totalizer B average flowrate	R	7321 and 7322	7371 and 7372	7421 and 7422	7471 and 7472	7521 and 7522	7571 and 7572
Totalizer A batch total	R	7323 to 7326	7373 to 7376	7423 to 7426	7473 to 7476	7523 to 7526	7573 to 7576
Totalizer B batch total	R	7327 to 7330	7377 to 7380	7427 to 7430	7477 to 7480	7527 to 7530	7577 to 7580
Totalizer A max. flowrate (previous batch)	R	7331 and 7332	7381 and 7382	7431 and 7432	7481 and 7482	7531 and 7532	7581 and 7582
Totalizer B max. flowrate (previous batch)	R	7333 and 7334	7383 and 7384	7433 and 7434	7483 and 7484	7533 and 7534	7583 and 7584
Totalizer A min. flowrate (previous batch)	R	7335 and 7336	7385 and 7386	7435 and 7436	7485 and 7486	7535 and 7536	7585 and 7586
Totalizer B min. flowrate (previous batch)	R	7337 and 7338	7387 and 7388	7437 and 7438	7487 and 7488	7537 and 7538	7587 and 7588
Totalizer A average flowrate (previous batch)	R	7339 and 7340	7389 and 7390	7439 and 7440	7489 and 7490	7539 and 7540	7589 and 7590
Totalizer B average flowrate (previous batch)	R	7341 and 7342	7391 and 7392	7441 and 7442	7491 and 7492	7541 and 7542	7591 and 7592
Totalizer A batch total (previous batch)	R	7343 to 7346	7393 to 7396	7443 to 7446	7493 to 7496	7543 to 7546	7593 to 7596
Totalizer B batch total (previous batch)	R	7347 to 7350	7397 to 7400	7447 to 7450	7497 to 7500	7547 to 7550	7597 to 7600

Table 5.38 Registers by Channel – Process Group 6, Channels 7 to 12

5.3 Communications – Analog and Digital Inputs

Input Number	Communications – Digital Inputs	Communications – Analog Inputs Failure	Communications – Analog Inputs
	Read Access 0 = Inactive 1 = Active		32-bit single precision floating point (-999 to 9999)
	Write Access 0 = De-activate 1 = Activate	Write Access Read Only	
Coil Number	Coil Number	Registers	
1	1601	1651	3701 and 3702
2	1602	1652	3703 and 3704
3	1603	1653	3705 and 3706
4	1604	1654	3707 and 3708
5	1605	1655	3709 and 3710
6	1606	1656	3711 and 3712
7	1607	1657	3713 and 3714
8	1608	1658	3715 and 3716
9	1609	1659	3717 and 3718
10	1610	1660	3719 and 3720
11	1611	1661	3721 and 3722
12	1612	1662	3723 and 3724
13	1613	1663	3725 and 3726
14	1614	1664	3727 and 3728
15	1615	1665	3729 and 3730
16	1616	1666	3731 and 3732
17	1617	1667	3733 and 3734
18	1618	1668	3735 and 3736
19	1619	1669	3737 and 3738
20	1620	1670	3739 and 3740
21	1621	1671	3741 and 3742
22	1622	1672	3743 and 3744
23	1623	1673	3745 and 3746
24	1624	1674	3747 and 3748
25	1625	1675	3749 and 3750
26	1626	1676	3751 and 3752
27	1627	1677	3753 and 3754
28	1628	1678	3755 and 3756
29	1629	1679	3757 and 3758
30	1630	1680	3759 and 3760
31	1631	1681	3761 and 3762
32	1632	1682	3763 and 3764
33	1633	1683	3765 and 3766
34	1634	1684	3767 and 3768
35	1635	1685	3769 and 3770
36	1636	1686	3771 and 3772

Table 5.39 Modbus Inputs

Notes

PRODUCTS & CUSTOMER SUPPORT

Products

Automation Systems

- for the following industries:
 - Chemical & Pharmaceutical
 - Food & Beverage
 - Manufacturing
 - Metals and Minerals
 - Oil, Gas & Petrochemical
 - Pulp and Paper

Drives and Motors

- AC and DC Drives, AC and DC Machines, AC Motors to 1kV
- Drive Systems
- Force Measurement
- Servo Drives

Controllers & Recorders

- Single and Multi-loop Controllers
- Circular Chart and Strip Chart Recorders
- Paperless Recorders
- Process Indicators

Flexible Automation

- Industrial Robots and Robot Systems

Flow Measurement

- Electromagnetic Flowmeters
- Mass Flowmeters
- Turbine Flowmeters
- Wedge Flow Elements

Marine Systems & Turbochargers

- Electrical Systems
- Marine Equipment
- Offshore Retrofit and Refurbishment

Process Analytics

- Process Gas Analysis
- Systems Integration

Transmitters

- Pressure
- Temperature
- Level
- Interface Modules

Valves, Actuators and Positioners

- Control Valves
- Actuators
- Positioners

Water, Gas & Industrial Analytics Instrumentation

- pH, Conductivity and Dissolved Oxygen Transmitters and Sensors
- Ammonia, Nitrate, Phosphate, Silica, Sodium, Chloride, Fluoride, Dissolved Oxygen and Hydrazine Analyzers
- Zirconia Oxygen Analyzers, Katharometers, Hydrogen Purity and Purge-gas Monitors, Thermal Conductivity

Customer Support

We provide a comprehensive after sales service via a Worldwide Service Organization. Contact one of the following offices for details on your nearest Service and Repair Centre.

United Kingdom

ABB Limited
Tel: +44 (0)1480 475321
Fax: +44 (0)1480 217948

United States of America

ABB Inc.
Tel: +1 215 674 6000
Fax: +1 215 674 7183

Client Warranty

Prior to installation, the equipment referred to in this manual must be stored in a clean, dry environment, in accordance with the Company's published specification.

Periodic checks must be made on the equipment's condition. In the event of a failure under warranty, the following documentation must be provided as substantiation:

1. A listing evidencing process operation and alarm logs at time of failure.
2. Copies of all storage, installation, operating and maintenance records relating to the alleged faulty unit.

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ABB has Sales & Customer Support expertise
in over 100 countries worldwide

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The Company's policy is one of continuous product
improvement and the right is reserved to modify the
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