

# DOMS 816R

8 / 16 Channels

Source & Sink Output Versions

DIN-Rail Mount MODBUS over Serial

# Operation Manual

This brief manual is primarily meant for quick reference to wiring connections and parameter searching. For more details on operation and application; please log on to [www.ppiindia.net](http://www.ppiindia.net)

# PPI

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Dec 2024

Modbus Data Type	MODBUS Address	Values																									
<b>1. Digital Output Function Modes &amp; Associated Parameters</b>																											
<b>Output Status Command Register</b> Run Time Parameter Bit-Mapped Holding Register Function Code (0x06 & 0x10)	2	<p>8 Ch : Bits 8 to 15 are unused - ignore Write Operation (Bit Positions 0 to 15)</p> <table border="1"> <thead> <tr> <th>Bit Value</th> <th>Mode</th> <th>DO Status</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>On-Off</td> <td>Output ON</td> </tr> <tr> <td>Single Pulse</td> <td>Start a new pulse or re-trigger a running pulse</td> </tr> <tr> <td>Pulse Train</td> <td>Start / Keep running a Pulse-Train</td> </tr> <tr> <td rowspan="3">0</td> <td>On-Off</td> <td>Output OFF</td> </tr> <tr> <td>Single Pulse</td> <td>No effect</td> </tr> <tr> <td>Pulse Train</td> <td>Stop Pulse-Train</td> </tr> </tbody> </table>	Bit Value	Mode	DO Status	1	On-Off	Output ON	Single Pulse	Start a new pulse or re-trigger a running pulse	Pulse Train	Start / Keep running a Pulse-Train	0	On-Off	Output OFF	Single Pulse	No effect	Pulse Train	Stop Pulse-Train								
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Coils Function Code (0x05 & 0x0F)	1 to 8 (8 Channel)  1 to 16 (16 Channel)	Write Operation (Coil Address 1 to 16) For 8 Channel Version (DOMS-8), address 9 to 16 are Ignored																									
<b>Output Function Mode Configuration Parameter</b> (Stored in Non-Volatile memory) Holding Register Function Code (0x06 & 0x10)	6 to 13 (8 Channel)  6 to 21 (16 Channel)	<table border="1"> <thead> <tr> <th>Coil Value</th> <th>Mode</th> <th>DO Status</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>On-Off</td> <td>Output ON</td> </tr> <tr> <td>Single Pulse</td> <td>Start a new pulse or re-trigger a running pulse</td> </tr> <tr> <td>Pulse Train</td> <td>Start / Keep running a Pulse-Train</td> </tr> <tr> <td rowspan="3">0</td> <td>On-Off</td> <td>Output OFF</td> </tr> <tr> <td>Single Pulse</td> <td>No effect</td> </tr> <tr> <td>Pulse Train</td> <td>Stop Pulse-Train</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Value</th> <th>Function Mode</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>ON-OFF</td> </tr> <tr> <td>1</td> <td>Single Pulse</td> </tr> <tr> <td>2</td> <td>Pulse Train</td> </tr> </tbody> </table> (Default : ON-OFF Mode)	Coil Value	Mode	DO Status	1	On-Off	Output ON	Single Pulse	Start a new pulse or re-trigger a running pulse	Pulse Train	Start / Keep running a Pulse-Train	0	On-Off	Output OFF	Single Pulse	No effect	Pulse Train	Stop Pulse-Train	Value	Function Mode	0	ON-OFF	1	Single Pulse	2	Pulse Train
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<b>Pulse-ON Time</b> Run-Time / Configuration Parameter (Refer Parameter : 'Save Pulse-ON & Pulse-OFF Times to Non-Volatile Memory') Holding Register Function Code (0x06 & 0x10)	22 to 29 (8 Channel)  22 to 37 (16 Channel)	<b>Applicable for 'Single Pulse' &amp; 'Pulse-Train' Mode Only</b> 0 to 30000 Counts (0.01 to 300 Seconds) <b>1 count = 10 milli-Seconds</b> (Default : 10 Counts)																									
<b>Pulse-OFF Time</b> Run-Time / Configuration Parameter (Refer Parameter : 'Save Pulse-ON & Pulse-OFF Times to Non-Volatile Memory') Holding Register Function Code (0x06 & 0x10)	38 to 45 (8 Channel)  38 to 53 (16 Channel)	<b>Applicable for 'Pulse-Train' Mode Only</b> 0 to 30000 Counts (0.01 to 300 Seconds) <b>1 count = 10 milli-Seconds</b> (Default : 10 Counts)																									

Modbus Data Type	MODBUS Address	Values						
<b>Save Pulse-ON &amp; Pulse-OFF Times to Non-Volatile Memory</b> Holding Register Function Code (0x06 & 0x10)	54	<b>Applicable for 'Single Pulse' &amp; 'Pulse-Train' Mode Only</b> <table border="1"> <thead> <tr> <th>Value</th> <th>Save to Memory</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> </tbody> </table>	Value	Save to Memory	0	No	1	Yes
Value	Save to Memory							
0	No							
1	Yes							
<b>2. Output Fail-Safe Status</b>								
<b>'Fail-Safe Enable' Register / Coils</b> Configuration Parameter (Stored in Non-Volatile memory) Bit-Mapped Holding Register Function Code (0x06 & 0x10)	3	<p>8 Ch : Bits 8 to 15 are unused - ignore</p> <table border="1"> <thead> <tr> <th>Bit Value</th> <th>Enable / Disable</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Fail-Safe Disable</td> </tr> <tr> <td>1</td> <td>Fail-Safe Enable</td> </tr> </tbody> </table> (Default : Disable)	Bit Value	Enable / Disable	0	Fail-Safe Disable	1	Fail-Safe Enable
Bit Value	Enable / Disable							
0	Fail-Safe Disable							
1	Fail-Safe Enable							
Coils Function Code (0x05 & 0x0F)	17 to 24 (8 Channel)  17 to 32 (16 Channel)	<table border="1"> <thead> <tr> <th>Coil Value</th> <th>Enable / Disable</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Fail-Safe Disable</td> </tr> <tr> <td>1</td> <td>Fail-Safe Enable</td> </tr> </tbody> </table> (Default : Disable)	Coil Value	Enable / Disable	0	Fail-Safe Disable	1	Fail-Safe Enable
Coil Value	Enable / Disable							
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<b>'Fail-Safe Status' Register / Coils</b> (This parameter is applicable only if 'Fail-Safe' is enabled) Configuration Parameter (Stored in Non-Volatile memory) Bit-Mapped Holding Register Function Code (0x06 & 0x10)	4	<p>8 Ch : Bits 8 to 15 are unused - ignore</p> <table border="1"> <thead> <tr> <th>Bit Value</th> <th>Output Status</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>OFF</td> </tr> <tr> <td>1</td> <td>ON</td> </tr> </tbody> </table> (Default : OFF)	Bit Value	Output Status	0	OFF	1	ON
Bit Value	Output Status							
0	OFF							
1	ON							
Coils Function Code (0x05 & 0x0F)	33 to 40 (8 Channel)  33 to 48 (16 Channel)	<table border="1"> <thead> <tr> <th>Bit Value</th> <th>Output Status</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>OFF</td> </tr> <tr> <td>1</td> <td>ON</td> </tr> </tbody> </table> (Default : OFF)	Bit Value	Output Status	0	OFF	1	ON
Bit Value	Output Status							
0	OFF							
1	ON							
<b>'Fail-Safe Time Period' Register</b> (This parameter is applicable only if 'Fail-Safe' is enabled) Configuration Parameter (Stored in Non-Volatile memory) Holding Register Function Code (0x06 & 0x10)	5	1 to 300 Seconds (Default : 10 Seconds)						

### FRONT PANEL & CONFIGURATION MODE

**Device Power Status** (ON : Device Powered)

**Device CPU Status** (Flashing : CPU Status OK)

**Serial Comm. Status**  
 (RX Flashing : Receiving Query  
 TX Flashing : Responding Query)

**Channel-1 to Channel-16 Digital Output Status**  
 (OFF : Output Off [Load De-energized]  
 ON : Output On [Load Energized])

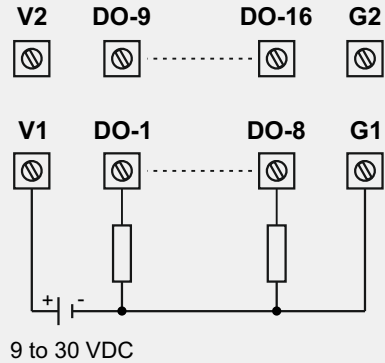
Slide Switch Set for Configuration Mode

#### Configuration Mode

Switch Position	Down	Up
<b>Mode Indicator</b>	OFF	ON
<b>Operation Mode</b>	Normal	Configuration
<b>Communication Parameter Values</b>	User Set values for Module Slave ID, Baud Rate & Parity	Module Slave ID : 1 Baud Rate : 9600 Parity : None

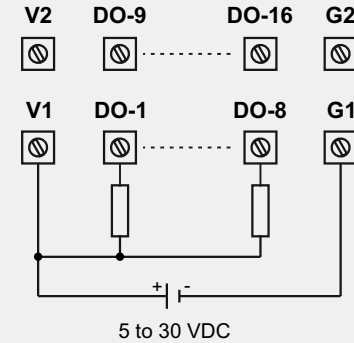
## DIGITAL OUTPUT CHANNELS

### Source



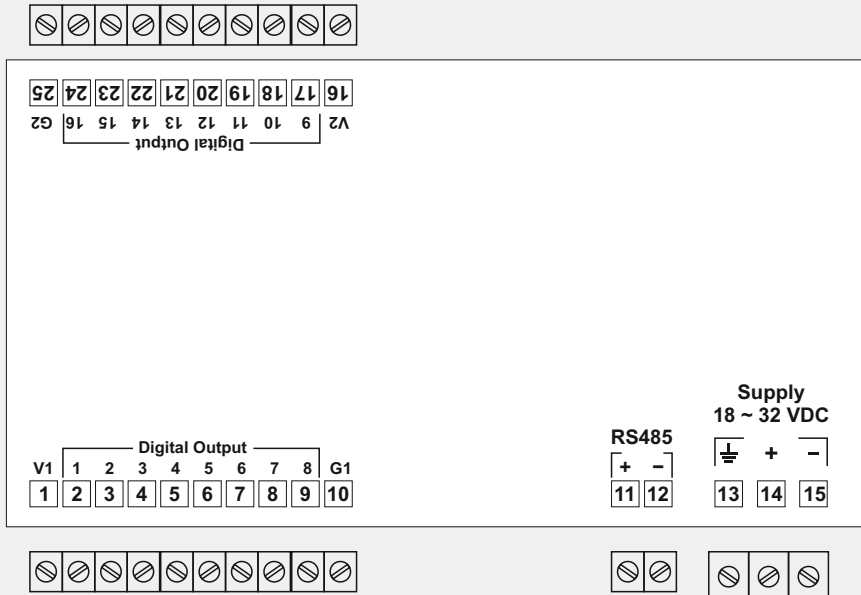
**(V1 / G1) & (V2 / G2) are Isolated**

### Sink

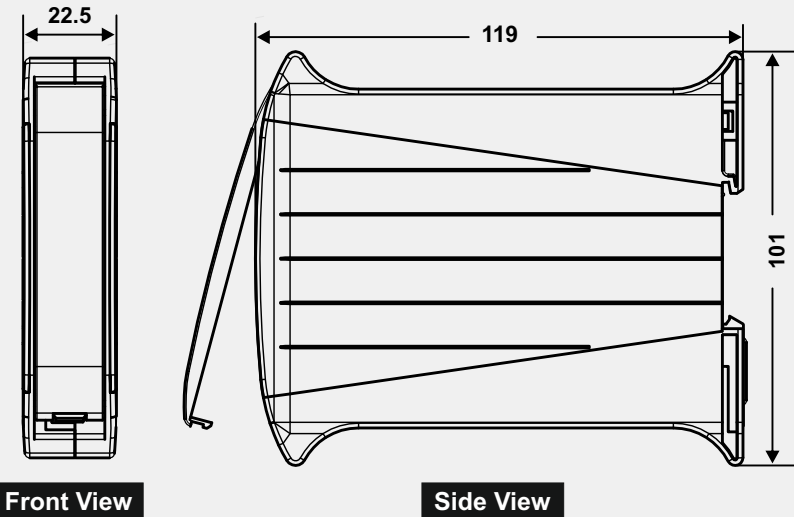


**(V1 / G1) & (V2 / G2) are Isolated**

### ELECTRICAL CONNECTIONS



### OVERALL DIMENSION



All Dimensions are in mm

Width (W) : 22.5 mm, Height (H) : 101.0 mm, Depth (D) : 119.0 mm