Modbus Register Map

1. Common Functions

- **0xxxx: DO address (base 0)**

Begin address	Points	Description	Bits per Point	Range	Access Type
127 (0x7F)	1	Recovers all web default settings	1	1 = recover	W (Pulse)
128 (0x80)	1	Default ID settings	1	1 = recover	W (Pulse)
133 (0x85)	1	Reboots the PETL-7000 module	1	1 = reboot	W (Pulse)
Remarks	"**W**": Write				

- **3xxxx: AI address (base 0)**

Begin address	Points	Description	Bits per Point	Range	Access Type
151 (0x97)	1	Firmware version	16	123 denotes that the version=1.2.3	R
158 (0x9E)	1	Modbus communication status	16	0 = No Error 1 = Timeout	R
160 (0xA0)	1	Pair-Connection status	16	0 = Normal 1 = Timeout 2 = Disconnected	R
Remarks	"**R**": Read				

- **4xxxx: AO address (base 0)**

Begin address	Points	Description	Bits per Point	Range	Access Type
255 (0xFF)	1	CPU reset status	16	1 = at Power-on 2 = by the WDT 3 = by the reset command	R/W
257 (0x101)	1	Set host watch dog timer	16	<5: Disabled 5~65535: Enabled (units: seconds) (Default=0) When the PETL-7060 module loses communication with host PC for more than the period defined in the WDT settings, DO channels will revert to their safe values and the host WDT events counter will increase by one.	R/W/F
258 (0x102)	1	Host WDT events	16	Denotes how many host WDT events have occurred since the last CPU reset	R/W
259 (0x103)	1	Module name	16	Module name	R
263 (0x107)	1	Set TCP timeout	16	<5: Disabled 5~65535: Enabled (units: second) (default=0)	R/W/F
264 (0x108)	1	Set System timeout	16	<30: Disabled 30~65535: Enabled (unit: second) (default=0)	R/W/F
Remarks	"**R**": Read; "**W**": Write; "**F**": Setting is recorded in flash as default.				

2. Specific Functions

The nDI and nDO parameters of model used in the following Modbus address tables are shown as follows:

Model name	Number of DO channels **(nDO)**	Number of DI channels **(nDI)**
PETL-7060	6	6

- **0xxxx: DO address (base 0)**

Begin address	Points	Description	Bits per Point	Range	Access Type
0 (0x00)	1~nDO	Digital Output	1	0 = Off 1 = On	R/W
32 (0x20)	1	Clear all DI latched status (high)	1	1 = Clear	W
33 (0x21)	1	Clear all DI latched status (low)	1	1 = Clear	W
34 (0x22)	1~nDI	Clear high speed digital counter	1	1 = Clear	W
60 (0x3C)	1	Save specific data to Flash (The access type of some register are labeled by "**E"**)	1	1 = Clear	W
100 (0x64)	1~nDO	Enable DO PWM	1	0 = Off 1 = On (Default= 0)	R/W/E
150 (0x96)	1	Enable all DI latched status (high/low)	1	0 = Disable 1 = Enable (Default= 0)	R/W/F
151 (0x97)	1~nDI	Enable high speed digital counter	1	0 = Disable 1 = Enable (Default= 0)	R/W/F
190 (0xBE)	1~nDI	Enable DI frequency measurement	1	0 = Disable 1 = Enable (Default= 0)	R/W/F
235 (0xEB)	1~nDO	Power-on value for DO	1	0 = Off 1 = On (Default= 0)	R/W/F
267 (0x10B)	1~nDO	Safe value for DO	1	0 = Off 1 = On (Default= 0)	R/W/F
Remarks	"**R**": Read; "**W**": Write; "**F**": Setting is recorded in flash as default. "**E**": After writing DO[60] register, the data will be stored in flash.				

• 1xxxx: DI address (base 0)

Begin address	Points	Description	Bits per Point	Range	Access Type
0 (0x00)	1~nDI	Digital Input status	1	0 = Off 1 = On	R
32 (0x20)	1~nDI	Digital latched status (high)	1	0 = no 1 = latched	R
64 (0x40)	1~nDI	Digital latched status (low)	1	0 = no 1 = latched	R
Remarks	"**R**": Read				

• 3xxxx: AI address (base 0)

Begin address	Points	Description	Bits per Point	**Value**	Access Type
16 (0x10)	1~nDI	Value of digital counter	32	0~4294967296	R
64 (0x40)	1~nDI	Value of DI frequency	32	0~3500000	R
100 (0x64)	1	Number of DI channels	16	nDI	R
110 (0x6E)	1	Number of DO channels	16	nDO	R
121 (0x79)	1	Number of high-speed counters	16	nDI	R
Remarks	"**R**": Read				

- **4xxxx: AO address (base 0)**

Begin address	Points	Description	Bits per Point	Range	Access Type
50 (0x32)	1~nDI	Preset value for the high speed digital counter	32	0~4294967296	R/W/E
100 (0x64)	1~nDO	Duty cycle The first word (16-bit register) is the high pulse width, while the second word is the low pulse width. The unit is 1 ms, and the resolution is about 5 ms.	32	First word 5~65535 ms; Second word 5~65535 ms;	R/W/E
150 (0x64)	1~nDO	Scan mode	16	1000 = 1000 ms 100 = 100 ms 2000 = Single pulse	R/W/F
200 (0x64)	1~nDO	Moving average	16	1=No average 2=Average 2 values 4= Average 4 values 8= Average 8 values	R/W/F
268 (0x10C)	1~nDO	Min-Switching Time for DO	16	1~65535 second	R/W/F
284 (0x11C)	1~nDO	Auto-off Time for DO	16	1~65535 second	R/W/F
Remarks	"**R**": Read; "**W**": Write; "**F**": Setting is recorded in flash as default. "**E**": After writing DO[60] register, the data will be stored in flash.				