

PSI 9000 2U/3U/15U/24U register list for devices with KE firmware from V2.15 (Anybus) / V2.04 (GPIB) (check the installed version in your device's MENU in item INFO HW, SW)

| Modbus address | Read coils (0x01) | Read holding registers (0x03) | Write single coil (0x05) | Write single register (0x06) | Write multiple registers (0x10) | Description | Access | Access condition for writing | Data type | Data length in bytes | Number of registers | Data | Example | Profibus slot / Profinet subslot | Profibus/Profinet index in slot | EtherCAT SDO/PDO? |
|----------------|-------------------|-------------------------------|--------------------------|------------------------------|---------------------------------|---|--------|------------------------------|-----------|----------------------|---------------------|---|---|----------------------------------|---------------------------------|-------------------|
| 0 | x | | | | | Device class | R | | uint(16) | 2 | 1 | | 21, 33, 35, 37 = PSI 9000 Series | 1 | 0 | x |
| 1 | x | | | | | Device type | R | | char | 40 | 20 | ASCII | PSI 9080-170 | 1 | 1 | x |
| 21 | x | | | | | Manufacturer | R | | char | 40 | 20 | ASCII | | 1 | 2 | x |
| 41 | x | | | | | Manufacturer address | R | | char | 40 | 20 | ASCII | | 1 | 3 | x |
| 61 | x | | | | | Manufacturer ZIP code | R | | char | 40 | 20 | ASCII | | 1 | 4 | x |
| 81 | x | | | | | Manufacturer phone number | R | | char | 40 | 20 | ASCII | | 1 | 5 | x |
| 101 | x | | | | | Manufacturer website | R | | char | 40 | 20 | ASCII | | 1 | 6 | x |
| 121 | x | | | | | Nominal voltage | R | | float | 4 | 2 | Floating point number IEEE754 | 80 | 1 | 7 | x |
| 123 | x | | | | | Nominal current | R | | float | 4 | 2 | Floating point number IEEE754 | 170 | 1 | 8 | x |
| 125 | x | | | | | Nominal power | R | | float | 4 | 2 | Floating point number IEEE754 | 3500 | 1 | 9 | x |
| 127 | x | | | | | Max. Internal resistance | R | | float | 4 | 2 | Floating point number IEEE754 | 12 | 1 | 10 | x |
| 129 | x | | | | | Min. Internal resistance | R | | float | 4 | 2 | Floating point number IEEE754 | 0 | 1 | 11 | x |
| 131 | x | | | | | Article no. | R | | char | 40 | 20 | ASCII | 33230401 | 1 | 12 | x |
| 151 | x | | | | | Serial no. | R | | char | 40 | 20 | ASCII | 100010002 | 1 | 13 | x |
| 171 | x | | | x | | User text | RW | REM | char | 40 | 20 | ASCII | | 1 | 14 | x |
| 191 | x | | | | | Firmware version (KE) | R | | char | 40 | 20 | ASCII | V2.01 05.09.2012 | 1 | 15 | x |
| 211 | x | | | | | Firmware version (HMI) | R | | char | 40 | 20 | ASCII | V2.02 13.08.2012 | 1 | 16 | x |
| 231 | x | | | | | Firmware version (DR) | R | | char | 40 | 20 | ASCII | V2.01 10.09.2012 | 1 | 17 | x |
| 402 | x | | x | | | Remote mode | RW | | uint(16) | 2 | 1 | Coils : Remote | 0x0000 = off; 0xFF00 = on | 2 | 1 | x |
| 405 | x | | x | | | DC output | RW | REM | uint(16) | 2 | 1 | Coils : output | 0x0000 = off; 0xFF00 = on | 2 | 4 | x |
| 407 | x | | | | | Condition of DC output after power fail alarm | RW | REM | uint(16) | 2 | 1 | Coils : Auto-On | 0x0000 = off; 0xFF00 = auto-on | 3 | 30 | x |
| 408 | x | | | x | | Condition of DC output after powering the device | RW | REM | uint(16) | 2 | 1 | Reg : Power-On | 0xFFFF = off; 0xFFFE = restore | 2 | 6 | x |
| 409 | x | | x | | | Operation mode (UIP/UIR) | RW | REM | uint(16) | 2 | 1 | Coils : Operation mode | 0x0000 = UIP; 0xFF00 = IUR | 2 | 7 | x |
| 410 | | | x | | | Restart of the device (warm start) | W | REM | uint(16) | 2 | 1 | Coils : Restart | 0xFF00 = execute | 2 | 8 | x |
| 411 | | | x | | | Acknowledge alarms | W | REM | uint(16) | 2 | 1 | Coils : Alarms | 0xFF00 = acknowledge | 2 | 9 | x |
| 416 | x | | x | | | Analog interface: Reference voltage (pin VREF) | RW | REM | uint(16) | 2 | 1 | Coils : VREF | 0x0000 = 10V; 0xFF00 = 5V | 2 | 14 | x |
| 417 | x | | x | | | Analog interface: REM-SB level | RW | REM | uint(16) | 2 | 1 | Coils : REM-SB Level | 0x0000 = normal; 0xFF00 = inverted | 2 | 36 | x |
| 418 | | | x | | | Analog interface: REM-SB action | W | REM | uint(16) | 2 | 1 | Coils : REM-SB Action | 0x0000 = DC off; 0xFF00 = DC auto | 2 | 37 | x |
| 426 | x | | x | | | Function generator XY: Select PV mode | RW | REM | uint(16) | 2 | 1 | Coils : PV mode | 0x0000 = off; 0xFF00 = on | 5 | 13 | x |
| 500 | x | | x | | | Set voltage value | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Voltage value (for translation see programming guide) | 2 | 23 | x |
| 501 | x | | x | | | Set current value or irradiation (PV function) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Current value (for translation see programming guide) / Irradiation | 2 | 24 | x |
| 502 | x | | x | | | Set power value | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Power value (for translation see programming guide) | 2 | 25 | x |
| 503 | x | | x | | | Set resistance value | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0xC000 (0 - 100%) | Resistance value (for translation see programming guide) | 2 | 26 | x |
| 505 | x | | | | | Device state | R | | uint(32) | 4 | 2 | Bit 0- 4: Control location Bit 5 : - Bit 6 : Master-slave type Bit 7 : Output state Bit 8 : - Bit 9-10: Regulation mode Bit 12-11: - Bit 13 : Function mode Bit 14 : External sense Bit 15 : Alarms Bit 16 : OVP Bit 17 : OCP Bit 18 : OPP Bit 19 : OT Bit 20 : OTpre Bit 21 : Power fail 1 Bit 22 : Power fail 2 Bit 23 : Power fail 3 Bit 24 : UVD Bit 25 : OVD Bit 26 : UCD Bit 27 : OCD Bit 28 : OPD Bit 29 : MSS Bit 30 : REM-SB | 0x00 = free; 0x01 = local; 0x03 = USB; 0x04 = analog; 0x05 = Profibus; 0x06 = Ethernet; 0x08 = Master/Slave; 0x09 = RS232; 0x10 = CANopen; 0x12 = Modbus TCP 1P; 0x13 = Profinet 1P; 0x14 = Ethernet 1P; 0x15 = Ethernet 2P; 0x16 = Modbus TCP 2P; 0x17 = Profinet 2P; 0x18 = GPIB; 0x19 = CAN; 0x1A = EtherCAT | 2 | 27 | x |
| 507 | | | x | | | Actual voltage | R | | uint(16) | 2 | 1 | 0x0000 - 0xFFFF (0 - 125%) | Actual voltage (for translation see programming guide) | 2 | 28 | x |
| 508 | | | x | | | Actual current | R | | uint(16) | 2 | 1 | 0x0000 - 0xFFFF (0 - 125%) | Actual current (for translation see programming guide) | 2 | 29 | x |
| 509 | | | x | | | Actual power | R | | uint(16) | 2 | 1 | 0x0000 - 0xFFFF (0 - 125%) | Actual power (for translation see programming guide) | 2 | 30 | x |
| 520 | x | | | | | Count of OV alarms since power up | R | - | uint(16) | 2 | 1 | 0x0000 - 0xFFFF | Count | 3 | 20 | x |
| 521 | x | | | | | Count of OC alarms since power up | R | - | uint(16) | 2 | 1 | 0x0000 - 0xFFFF | Count | 3 | 21 | x |
| 522 | x | | | | | Count of OP alarms since power up | R | - | uint(16) | 2 | 1 | 0x0000 - 0xFFFF | Count | 3 | 22 | x |
| 523 | x | | | | | Count of OT alarms since power up | R | - | uint(16) | 2 | 1 | 0x0000 - 0xFFFF | Count | 3 | 23 | x |
| 524 | x | | | | | Count of PF alarms since power up | R | - | uint(16) | 2 | 1 | 0x0000 - 0xFFFF | Count | 3 | 24 | x |
| 550 | x | | x | | | Overvoltage protection threshold (OVP) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0xE147 (0 - 110%) | OVP threshold (for translation see programming guide) | 3 | 0 | x |
| 553 | x | | x | | | Overcurrent protection threshold (OCP) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0xE147 (0 - 110%) | OCP threshold (for translation see programming guide) | 3 | 3 | x |
| 556 | x | | x | | | Overpower protection threshold (OPP) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0xE147 (0 - 110%) | OPP threshold (for translation see programming guide) | 3 | 6 | x |
| 559 | x | | x | | | Undervoltage detection (UVD) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | UVD threshold (for translation see programming guide) | 3 | 9 | x |
| 560 | x | | x | | | Adjustable UVD notification | RW | REM | uint(16) | 2 | 1 | Coils : Adjustable UVD notification | 0x0000 = nothing; 0x0001 = signal; 0x0002 = warning; 0x0003 = alarm | 3 | 10 | x |
| 561 | x | | x | | | Overvoltage detection (OVD) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | OVD threshold (for translation see programming guide) | 3 | 11 | x |
| 562 | x | | x | | | Adjustable OVD notification | RW | REM | uint(16) | 2 | 1 | Coils : Adjustable OVD notification | 0x0000 = nothing; 0x0001 = signal; 0x0002 = warning; 0x0003 = alarm | 3 | 12 | x |
| 563 | x | | x | | | Undercurrent detection (UCD) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | UCD threshold (for translation see programming guide) | 3 | 13 | x |
| 564 | x | | x | | | Adjustable UCD notification | RW | REM | uint(16) | 2 | 1 | Coils : Adjustable UCD notification | 0x0000 = nothing; 0x0001 = signal; 0x0002 = warning; 0x0003 = alarm | 3 | 14 | x |
| 565 | x | | x | | | Overcurrent detection (OCD) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | OCD threshold (for translation see programming guide) | 3 | 15 | x |
| 566 | x | | x | | | Adjustable OCD notification | RW | REM | uint(16) | 2 | 1 | Coils : Adjustable OCD notification | 0x0000 = nothing; 0x0001 = signal; 0x0002 = warning; 0x0003 = alarm | 3 | 16 | x |
| 567 | x | | x | | | Overpower detection (OPD) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | OPD threshold (for translation see programming guide) | 3 | 17 | x |
| 568 | x | | x | | | Adjustable OPD notification | RW | REM | uint(16) | 2 | 1 | Coils : Adjustable OPD notification | 0x0000 = nothing; 0x0001 = signal; 0x0002 = warning; 0x0003 = alarm | 3 | 18 | x |
| 650 | x | | x | | | Master-slave: Link mode on MS bus | RW | REM | uint(16) | 2 | 1 | Coils : Mode | 0x0000 = Slave; 0xFF00 = Master | 4 | 0 | x |
| 651 | x | | x | | | Master-slave: Address | RW | REM | uint(16) | 2 | 1 | Reg : Address | 0x0001...0x000F | 4 | 1 | x |
| 652 | x | | x | | | Master-slave: Link mode on Share bus | RW | REM | uint(16) | 2 | 1 | Coils : Mode | 0x0000 = Slave; 0xFF00 = Master | 4 | 2 | |
| 653 | x | | x | | | Master-slave: Enable MS | RW | REM | uint(16) | 2 | 1 | Coils : MS on/off | 0x0000 = off; 0xFF00 = on | 4 | 3 | x |
| 654 | | | x | | | Master-slave: Init MS | W | REM | uint(16) | 2 | 1 | Coils : MS start init | 0xFF00 = Start init | 4 | 4 | x |
| 655 | x | | x | | | Master-slave: Condition | R | | uint(16) | 2 | 1 | Reg : MS status | 0x0000 = not initialised; 0x0001 = init running; 0xFFFD = different models detected; init not OK; 0xFFFF = init OK | 4 | 5 | x |
| 656 | x | | | | | Master-slave: Total voltage in V | R | | float | 4 | 2 | Floating point number IEEE754 | 500 | 4 | 6 | x |
| 658 | x | | | | | Master-slave: Total current in A | R | | float | 4 | 2 | Floating point number IEEE754 | 300 | 4 | 7 | x |
| 660 | x | | | | | Master-slave: Total power in kW | R | | float | 4 | 2 | Floating point number IEEE754 | 150 | 4 | 8 | x |
| 662 | x | | | | | Master-slave: Number of initialised slaves | R | | uint(16) | 2 | 1 | | 1...15 | 4 | 9 | x |
| 850 | x | | x | | | Function generator Arbitrary: Start/stop | RW | REM | uint(16) | 2 | 1 | Coils : Start/Stop | 0x0000 = Stop; 0xFF00 = Start | 5 | 0 | x |
| 851 | x | | x | | | Function generator Arbitrary: Select U | RW | REM | uint(16) | 2 | 1 | Coils : U | 0x0000 = not assigned; 0xFF00 = Assign function to voltage | 5 | 1 | x |
| 852 | x | | x | | | Function generator Arbitrary: Select I | RW | REM | uint(16) | 2 | 1 | Coils : I | 0x0000 = not assigned; 0xFF00 = Assign function to current | 5 | 2 | x |
| 854 | x | | x | | | Function generator XY: Select I-U mode | RW | REM | uint(16) | 2 | 1 | Coils : I-U | 0x0000 = not assigned; 0xFF00 = Assign function to I-U curve | 5 | 4 | x |
| 855 | x | | x | | | Function generator XY: Select I-U mode | RW | REM | uint(16) | 2 | 1 | Coils : I-U | 0x0000 = not assigned; 0xFF00 = Assign function to I-U curve | 5 | 5 | x |
| 858 | | | x | | | Function generator XY: Submit curve data | W | REM | uint(16) | 2 | 1 | Coils : Submit for XY | 0xFF00 = Submit curve data | 5 | 8 | x |
| 859 | x | | x | | | Function generator Arbitrary: Start sequence | RW | REM | uint(16) | 2 | 1 | 0x0001...0x0064 | | 5 | 9 | x |
| 860 | x | | x | | | Function generator Arbitrary: End sequence | RW | REM | uint(16) | 2 | 1 | 0x0001...0x0064 | | 5 | 10 | x |
| 861 | x | | x | | | Function generator Arbitrary: Sequence cycles | RW | REM | uint(16) | 2 | 1 | 0x0000...0x03E7 | 0x0000 = infinite | 5 | 11 | x |
| 900 | x | | | | x | Function generator Arbitrary: Setup for sequence 1 | RW | REM | float | 32 | 16 | Bytes 3-0: Us/Is(AC) in V Bytes 7-4: Ue/Is(AC) in V Bytes 15-12: Is(1/T) in Hz Bytes 19-16: Is(1/T) in Hz Bytes 11-8: Angle in degrees Bytes 23-20: Us/Is(DC) in V Bytes 27-24: Ue/Is(DC) in V Bytes 31-28: Sequence time in µs | Floating point number in IEEE754 format, see device manual for value range, chapter about function generator Integer in IEEE754 format: 0...10000 Hz Integer in IEEE754 format: 0...10000 Hz Integer in IEEE754 format: 0°...359° Floating point number in IEEE754 format, see device manual for value range, chapter about function generator Floating point number in IEEE754 format: 100 µs...36,000,000,000 µs | 6 | 0 | x |
| 2484 | x | | | | x | Function generatorArbitrary: Setup for sequence 100 | RW | REM | float | 32 | 16 | Bytes 3-0: Us/Is(AC) in V Bytes 7-4: Ue/Is(AC) in V Bytes 15-12: Is(1/T) in Hz Bytes 19-16: Is(1/T) in Hz Bytes 11-8: Angle in degrees Bytes 23-20: Us/Is(DC) in V Bytes 27-24: Ue/Is(DC) in V Bytes 31-28: Sequence time in µs | Floating point number in IEEE754 format, see device manual for value range, chapter about function generator Integer in IEEE754 format: 0...10000 Hz Integer in IEEE754 format: 0...10000 Hz Integer in IEEE754 format: 0°...359° Floating point number in IEEE754 format, see device manual for value range, chapter about function generator Floating point number in IEEE754 format: 100 µs...36,000,000,000 µs | 6 | 99 | x |
| 2600 | | | x | | | Function generator: XY table, block 0 | RW | REM | uint(16) | 32 | 16 | UI mode: set voltage value IU mode: set current value (16 values block) | value = real set value of voltage * 0.8 / Unom * 32768 or value = real set value of current * 0.8 / Inom * 32768 | 7 | 0 | x |
| 6680 | x | | | | x | Function generator: XY table, block 255 | RW | REM | uint(16) | 32 | 16 | UI mode: set voltage value IU mode: set current value (16 values block) | value = real set value of voltage * 0.8 / Unom * 32768 or value = real set value of current * 0.8 / Inom * 32768 | 7 | 255 | x |
| 9000 | x | | x | | | Upper limit of voltage set value (U-max) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Voltage value (for translation see programming guide) | 2 | 31 | x |
| 9001 | x | | x | | | Lower limit of voltage set value (U-min) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Voltage value (for translation see programming guide) | 2 | 32 | x |
| 9002 | x | | x | | | Upper limit of current set value (I-max) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Current value (for translation see programming guide) | 2 | 33 | x |
| 9003 | x | | x | | | Lower limit of current set value (I-min) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Current value (for translation see programming guide) | 2 | 34 | x |
| 9004 | x | | x | | | Upper limit of power set value (P-max) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Power value (for translation see programming guide) | 2 | 35 | x |
| 9005 | x | | x | | | Lower limit of power set value | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0xC000 (0 - 100%) | Power value (for translation see programming guide) | 2 | 36 | x |
| 9006 | x | | x | | | Upper limit of resistance set value (R-max) | RW | REM | uint(16) | 2 | 1 | 0x0000 - 0x00E5 (0 - 102%) | Resistance value (for translation see programming guide) | 2 | 37 | x |
| 10007 | x | | x | | | Ethernet: Enable TCP keep-alive timeout | RW | REM | uint(16) | 2 | 1 | Coils: Keep-alive on/off | 0x0000 = off; 0xFF00 = on | | | |
| 10008 | x | | x | | | Ethernet/Profinet/Modbus TCP: DHCP | RW | REM | uint(16) | 2 | 1 | Coils: DHCP on/off | 0x0000 = off; 0xFF00 = on | | | |
| 10010 | x | | x | | | Protocol: Modbus | RW | REM | uint(16) | 2 | 1 | Coils: MODBUS on/off | 0x0000 = off; 0xFF00 = on | | | |
| 10011 | x | | x | | | Protocol: SCPI | RW | REM | uint(16) | 2 | 1 | Coils: SCPI on/off | 0x0000 = off; 0xFF00 = on | | | |
| 10020 | | | x | | | AnyBus module: Code number | R | | uint(16) | 2 | 1 | | | | | |