## N1200

## Communication Protocol - V10x

## 1. SERIAL COMMUNICATION

### 1.1 COMMUNICATION INTERFACE

The optional serial interface RS485 allows to address up to 247 controllers in a network communicating remotely with a host computer or master controller.

## RS485 Interface

- Compatible line signals with RS485 standard
- 2 wire connection from master to up to 31 slaves indicators in a multidrop bus. It is possible address 247 nodes with multiple outputs converters.
- Maximum communication distance: 1000 meters
- The RS485 signals are:

$$
\begin{array}{ll}
\mathrm{D} 1=\mathrm{D}: & \text { Bidirectional data line. } \\
\mathrm{D} 0=\overline{\mathrm{D}}: & \text { Bidirectional inverted data line. } \\
\mathrm{C}=\mathrm{GND}: & \text { Optional connection which left communication better. }
\end{array}
$$

## General Characteristics

- Optically isolated serial interface
- Programmable baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600 or 115200 bps.
- Data Bits: 8
- Parity: None, Even or Odd.
- Stop Bits: 1

Communication Protocol
The MOSBUS RTU slave is implemented, available in most SCADA softwares in the market.

All configurable parameters can be accessed (for reading or writing) through the Registers Table. Broadcast commands are supported as well (address 0 ).
The available Modbus commands are
03 - Read Holding Register
05 - Force Single Coil (Force Digital Output state)
06 - Preset Single Register
16 - Preset Multiple Registers (Block write to multiple holding registers)
The registers are arranged in a table in such a way that several registers can be read in the same request.

### 1.2 CONFIGURATION OF SERIAL COMMUNICATION PARAMETERS

Two parameters must be configured in the device for serial communication:
bRud: Baud rate. All devices with same baud rate.
Rddr: Device communication address. Each device must have an exclusive address.
Prty: Paraty.

### 1.3 REGISTERS TABLE

Equivalent to the registers referenced as 4 XXXX .
The holding registers are basically a list of the internal indicator parameters. All registers above address 12 can be read or written. The registers up to this address in more are read only. Please verify each case. Each table parameter is a 16 bits two complement signed word.

| Holding <br> Registers | Parameter | Register Description |
| :---: | :---: | :--- |
| 0000 | Active SP | Read: Active control SP (main SP, from ramp and soak or <br> from remote SP). <br> Write: to main SP <br> Range: from SPLL to 5PHL. |
| 0001 | PV | Read: Process Variable. <br> Write: Not allowed. <br> Range: Minimum value is the one configured in SPLL and <br> the maximum value is the one configured in SPHL. Decimal <br> point position depends on dPPo value. <br> In case of temperature reading, the value read is always <br> multiplied by 10, independently of dPPo value. |
| 0002 | MV | Read: Output Power in automatic or manual mode. <br> Write: Not allowed. See address 28. <br> Range: 0 to 1000 (0.0 to 100.0\%). |
| 0003 | Remote <br> SP type | Read/Write: Selected input type for remote SP. <br> Range: 0 to 3 |
| 0004 | Display <br> value | Read: Current value shown on display. <br> Write: Current value shown on display. <br> Range: -1999 to 9999. The range depends on the <br> displayed parameter. |


| 0005 | Prompt index | Read: Current prompt position in the parameters flowchart. <br> Write: not allowed. Range: 0000h to 060Ch <br> Prompt number format: XXYYh, where: <br> $X X \rightarrow$ menu cycle number (check item 4 INSTALLATION/CONNECTIONS) <br> YY $\rightarrow$ prompt number (index). |
| :---: | :---: | :---: |
| 0006 | Status Word 1 | Read: Status bits. See table 2. Write: not allowed. |
| 0007 | Software Version | Read: The firmware version of controller. If V1.00, the read value will be 100 . <br> Write: not allowed. |
| 0008 | ID | Read: controller identification number. <br> Write: not allowed. <br> Values: $1 \text {-N1100; } 2 \text { - N2000; } 3 \text { - N1500; } 48-1200$ <br> Other values: special instruments. |
| 0009 | $\begin{array}{\|c\|} \hline \text { Status Word } \\ 2 \\ \hline \end{array}$ | Read: Status bits. See table 2. Write: not allowed. |
| 0010 | $\begin{gathered} \hline \text { Status Word } \\ 3 \\ \hline \end{gathered}$ | Read: Status bits. See table 2. Write: not allowed. |
| 0011 | ir | Integral Rate (in repetitions/min) <br> Range: 0 to 9999 ( 0.00 to 99.99 ) |
| 0012 | dt | Derivative Time (in seconds). Range: 0 to 3000 ( 0.0 to 300.0) |
| 0013 | Pb | Proportional Band (in percentage) <br> Range: 0 to 5000 ( 0.0 to 500.0 ) |
| 0014 | L6R5 | Read/Write: Time base for the ramp and soak programs. Range: 0-1 (seconds/minutes) |
| 0015 | ct | Cycle Time (PWM, in seconds) Range: 5 to 1000 ( 0.5 to 100.0) |
| 0016 | FrEq | Read/Write: Mains frequency. Range: 0-1 ( $60 / 50 \mathrm{~Hz}$ ) |
| 0017 | HYSt | On/Off Control Hysteresis (in selected type engineering unit). <br> Range: 0 to SPHL-5PLL |
| 0018 | Fitr | Read/Write: PV digital filter gain. Range: 0-20 |
| 0019 | -uLi | Output Low Limit (minimum output power) <br> Range: 0 to 1000 ( 0.0 to $100.0 \%$ ). |
| 0020 | OuHL | Output High Limit (minimum output power) <br> Range: 0 to 1000 ( 0.0 to $100.0 \%$ ). |
| 0021 | RuEn | N2000 only. <br> Auto/Man key Enable - <br> $1 \rightarrow$ Key enabled $0 \rightarrow$ Key disabled |
| 0022 | F.Func | N2000 only. <br> F key function. <br> $0 \rightarrow$ Not used. $\quad 7 \rightarrow$ Controller start/stop. <br> $8 \rightarrow$ Select remote SP. $\quad 9 \rightarrow$ Ramp and soak hold. <br> $10 \rightarrow$ Enable ramp and soak profile 1. |
| 0023 | Serial number H | Serial Number High (Upper display). <br> Range: 0 to 9999 . Read only |
| 0024 | Serial number L | Serial Number Low (Lower display). Range: 0 to 9999. Read only |
| 0025 | SV | Control Setpoint (Prompt Setpoint). Range: from SPLL to 5PHL. |
| 0026 | 5PLL | Setpoint Low limit. <br> Range: minimum value depends on the input type selected in $\mathbf{t}$ YPE (see Table 1) to SPHL. |
| 0027 | 5PHL | Setpoint High limit. <br> Range: minimum value is SPLL and maximum depends on the input type selected in $\llcorner$ YPE (see Table 1). |
| 0028 | Reserved | Internal use. |
| 0029 | ofF5 | PV offset <br> Range: from SPLL to SPHL |
| 0030 | dPPo | PV decimal point position Range: 0 to 3 $0 \rightarrow 0.000 ; 1 \rightarrow 0.00 ; 2 \rightarrow 000.0 ; 3 \rightarrow 0000$ |
| 0031 | 5P.R 1 | Alarm 1 Setpoint. <br> Range: The minimum value is at SPLL for non-differential alarm or SPLL - SPLH for differential alarm <br> The maximum value is at SPHL for non-differential alarm or at SPHL - SPLL for differential alarm. |
| 0032 | 5PR2 | Alarm 2 Setpoint. Range: same as in SPA I. |
| 0033 | 5PR3 | Alarm 3 Setpoint. Range: same as in SPR I. |
| 0034 | 5P.94 | Alarm 4 Setpoint. Range: same as in SPR I. |
| 0035 | FuR I | $\begin{aligned} & \text { Alarm } 1 \text { Function. Range: } 0 \text { to } 8 \\ & 0 \rightarrow \mathbf{o F F} ; 1 \rightarrow \text { IErr } ; 2 \rightarrow \mathbf{r} 5 ; 3 \rightarrow \mathbf{F R} \text {; } \\ & 4 \rightarrow \text { io; } 5 \rightarrow \boldsymbol{H} ; 6 \rightarrow \mathbf{I F L} ; 7 \rightarrow \mathbf{d} \text { IFH; } \\ & 8 \rightarrow \mathbf{I F} . \end{aligned}$ |
| 0036 | FuRE | Alarm 2 Function. Range: same as in FUR I. |
| 0037 | FuR3 | Alarm 3 Function. Range: same as in FUR I. |
| 0038 | FuR4 | Alarm 4 Function. Range: same as in FUR : |
| 0039 | HYR 1 | Alarm 1 Hysteresis. Range: 0 to 9999 (0.00 to 99.99\%) |


| 0040 | HYR2 | Alarm 2 Hysteresis. Range: same as in HYR I. |
| :---: | :---: | :---: |
| 0041 | HYR | Alarm 3 Hysteresis. Range: same as in HYR I. |
| 0042 | HYR4 | Alarm 4 Hysteresis. Range: same as in HYA I. |
| 0043 | LYPE | PV input type <br> Range: 0 to 22. See operation manual. |
| 0044 | Rddr | Communication slave address Range: 1 to 247 |
| 0045 | bRud | Communication Baud-Rate. Range: 0 to 4 $0 \rightarrow 1200 ; 1 \rightarrow 2400 ; 2 \rightarrow 4800 ; 3 \rightarrow 9600 ; 4 \rightarrow 19200$ |
| 0046 | Ruto | Control Mode. Range: $0 \rightarrow$ manual; $1 \rightarrow$ automatic. |
| 0047 | run | Enable control. Range: $0 \rightarrow$ no; $1 \rightarrow$ yes. |
| 0048 | Ret | Control action. Range: $0 \rightarrow$ direct; $1 \rightarrow$ reverse. |
| 0049 | Rtun | Auto tune enable. Range: $0 \rightarrow$ no; $1 \rightarrow$ yes. |
| 0050 | bLR | Alarm 1 power-up inhibit. Range: $0 \rightarrow$ no; $1 \rightarrow$ yes. |
| 0051 | bLRC | Alarm 2 power-up inhibit Range: same as in blR I. |
| 0052 | 6LR3 | Alarm 3 power-up inhibit Range: same as in bLR I. |
| 0053 | bL84 | Alarm 4 power-up inhibit Range: same as in bLR I. |
| 0054 | Key | Key press remote action. Range: 0 to 9 |
| 0055 | r 5LL | Remote Setpoint Low limit <br> Range: Minimum value depends on the input type selected <br> in $\mathbf{t}$ YPE, and maximum value is in $\mathbf{r} 5 \mathrm{HL}$. |
| 0056 | r 5HL | Remote Setpoint High limit <br> Range: Minimum value is in r5LL, and maximum depends on the input type selected in $\operatorname{EYPE}$. |
| 0057 | 101 | IO 1 Function. Range: 0 to 5 Refer to operation manual for more details. |
| 0058 | 102 | IO 2 Function. Range: 0 to 5 Refer to operation manual for more details. |
| 0059 | io 3 | IO 3 Function. Range: 0 to 10 Refer to operation manual for more details. |
| 0060 | 104 | IO 4 Function. Range: 0 to 10 Refer to operation manual for more details. |
| 0061 | 10 5 | IO 5 Function. Range: 0 to 16 Refer to operation manual for more details. |
| 0062 | R 化 1 | Alarm 1 Time 1. Range: 0 to 6500s Refer to operation manual for more details. |
| 0063 | R 化? | Alarm 1 Time 2 (in seconds) Range: same as in $\mathbf{R}$ It : |
| 0064 | R2t 1 | Alarm 2 Time 1 (in seconds) Range: same as in $\boldsymbol{A}$ It . |
| 0065 | R2t? | Alarm 2 Time 2 (in seconds) Range: same as in $\mathbf{R}$ It . |
| 0066 | 5F5t | Soft-Start time (in seconds) Range: 0 to 9999 |
| 0067 | un It | Temperature unit. Range: 0 to 1 $0 \rightarrow{ }^{\circ} \mathrm{C} ; 1 \rightarrow{ }^{\circ} \mathrm{F} .$ |
| 0068 | 6 IR5 | Bias. Range: -100 to $+100 \%$. |
| 0069 | io 5 | N2000 only. <br> IO 6 Function. Allowed values: $0,6,7,8,9$ and 10 . Refer to operation manual for more details. |
| 0070 | R\&S Segment | Ramp and Soak segment being executed (read only). Range: 0 to 9 |
| 0071 | Pr $n$ | Ramp and Soak segment to be viewed or edited. Range: 1 to 20 |
| 0072 | Pr $n$ | Ramp and Soak segment to be executed Range: 0 to 20 |
| 0073 | Remaining time R\&S | Indicates the remaining time of the Ramp and Soak segment. |
| 0074 | 59rt | Square root of a linear input. Range: 0->Disable;1->Enable. |
| 0075 | Calibration PV Low | Enter the low input value currently applied in the PV input for calibration purposes. |
| 0076 | Calibration PV High | Enter the high input value currently applied in the PV input for calibration purposes. |
| 0077 | Calib. remote SP Low | Enter the low input value currently applied in the remote setpoint input for calibration purposes. |
| 0078 | $\begin{gathered} \hline \text { Calib. remote } \\ \text { SP High } \\ \hline \end{gathered}$ | Enter the high input value currently applied in the remote setpoint input for calibration purposes. |
| 0079 | rtLL | Retransmission low limit |
| 0080 | rthi | Retransmission high limit |
| 0081 | FLSh | Enables the top display blinking as a function of the selected alarm. <br> Range: 0 to 15. <br> Check instruction manual for further details. |
| 0082 | 83t 1 | Time 1 of the alarm 3 timing (in seconds) Range: same as in $\mathbf{8}$ tt : |
| 0083 | R3t2 | Time 2 of the alarm 3 timing (in seconds) Range: same as in $\mathbf{R}$ tt . |


| 0084 | R4t 1 | Time 1 of the alarm 4 timing (in seconds) Range: same as in $\mathbf{A l t} I$. |
| :---: | :---: | :---: |
| 0085 | 84t2 | Time 2 of the alarm 4 timing (in seconds) Range: same as in $\mathbf{A} \mathbb{t L}$ 2. |
| 0086 | r 5tr | Restores original default calibration. <br> Range: 0 to $1 ; 0$-> do not restore; 1 -> restore calibration |
| 0087 | - | Internal use |
| 0088 | Prot | Password protection level. <br> Range: 1 to 7. <br> Check instruction manual for further details. |
| 0089 | Prty | Serial communication parity. <br> Range: 0 to 2. <br> $0->$ no parity; 1 - > even parity; 2 - >odd parity; |
| 0090 | Reserved | Internal use |
| 0091 | Reserved | Internal use |
| 0092 | Reserved | Internal use |
| 0093 | Reserved | Internal use |
| 0094 | Reserved | Internal use |
| 0095 | Reserved | Internal use |
| 0096 | Reserved | Internal use |
| 0097 | Reserved | Internal use |
| 0098 | Er 5P | Enables remote setpoint. <br> Range: 0 to 1 . <br> $0->$ Remote setpoint depends on I/O configuration <br> $1->$ Force remote setpoint |
| 0099 | Reserved | Internal use |
| 0100 | PE 1 | Segment 1 Event of R\&S Program 1. <br> Range: 0 to 15. Check table 6 of the instruction manual. |
| 0101 | PE2 | Segment 2 Event of R\&S Program 1. Range: same as in $P E ;$ |
| 0102 | PE3 | Segment 3 Event of R\&S Program 1. Range: same as in PE I. |
| 0103 | PE4 | Segment 4 Event of R\&S Program 1. Range: same as in PE I. |
| 0104 | PES | Segment 5 Event of R\&S Program 1. Range: same as in PE I. |
| 0105 | PE6 | Segment 6 Event of R\&S Program 1. Range: same as in PE I. |
| 0106 | PE 7 | Segment 7 Event of R\&S Program 1. Range: same as in PE I. |
| 0107 | PEB | Segment 8 Event of R\&S Program 1. Range: same as in PE I. |
| 0108 | PES | Segment 9 Event of R\&S Program 1. Range: same as in PE t. |
| 0109 | PE 1 | Segment 1 Event of R\&S Program 2. Range: same as in PE I of Program 1. |
| 0110 | PE2 | Segment 2 Event of R\&S Program 2. Range: same as in PE I. |
| 0111 | PE3 | Segment 3 Event of R\&S Program 2. Range: same as in PE I. |
| 0112 | PE4 | Segment 4 Event of R\&S Program 2. Range: same as in PE I. |
| 0113 | PE5 | Segment 5 Event of R\&S Program 2. Range: same as in $\mathbf{P E}$ I. |
| 0114 | PE6 | Segment 6 Event of R\&S Program 2. Range: same as in PE I. |
| 0115 | PE 7 | Segment 7 Event of R\&S Program 2. Range: same as in PEI. |
| 0116 | PEB | Segment 8 Event of R\&S Program 2. Range: same as in PE I. |
| 0117 | PES | Segment 9 Event of R\&S Program 2. Range: same as in PE I. |
| 0119 | PE 1 | Segment 1 Event of R\&S Program 3. Range: same as in PE I of Program 1. |
| 0120 | PE2 | Segment 2 Event of R\&S Program 3. Range: same as in PE I. |
| 0118 | PE3 | Segment 3 Event of R\&S Program 3. Range: same as in PE I. |
| 0121 | PE4 | Segment 4 Event of R\&S Program 3. Range: same as in PE I. |
| 0122 | PES | Segment 5 Event of R\&S Program 3. Range: same as in PE I. |
| 0123 | PE6 | Segment 6 Event of R\&S Program 3. Range: same as in PE I. |
| 0124 | PE 7 | Segment 7 Event of R\&S Program 3. Range: same as in PE I. |
| 0125 | PEB | Segment 8 Event of R\&S Program 3. Range: same as in PE I. |
| 0126 | PES | Segment 9 Event of R\&S Program 3. Range: same as in PE I. |
| 0127 | PE 1 | Segment 1 Event of R\&S Program 4. Range: same as in PE I of Program 1. |


| 0128 | PE2 | Segment 2 Event of R\&S Program 4. Range: same as in PE I. |
| :---: | :---: | :---: |
| 0129 | PE3 | Segment 3 Event of R\&S Program 4. Range: same as in PE I. |
| 0130 | PEY | Segment 4 Event of R\&S Program 4. Range: same as in PE I. |
| 0131 | PES | Segment 5 Event of R\&S Program 4. Range: same as in PE I. |
| 0132 | PE6 | Segment 6 Event of R\&S Program 4. Range: same as in PE I. |
| 0133 | PE 7 | Segment 7 Event of R\&S Program 4. Range: same as in PE I. |
| 0134 | PEB | Segment 8 Event of R\&S Program 4. Range: same as in PE I. |
| 0135 | PES | Segment 9 Event of R\&S Program 4. Range: same as in PE I. |
| 0136 | PE 1 | Segment 1 Event of R\&S Program 5. Range: same as in PE I of Program 1. |
| 0137 | PE2 | Segment 2 Event of R\&S Program 5. Range: same as in PE I. |
| 0138 | PE3 | Segment 3 Event of R\&S Program 5. Range: same as in PE I. |
| 0139 | PEY | Segment 4 Event of R\&S Program 5. Range: same as in PE I. |
| 0140 | PES | Segment 5 Event of R\&S Program 5. Range: same as in PE I. |
| 0141 | PE6 | Segment 6 Event of R\&S Program 5. Range: same as in PE I. |
| 0142 | PE 7 | Segment 7 Event of R\&S Program 5. Range: same as in PE I. |
| 0143 | PEB | Segment 8 Event of R\&S Program 5. Range: same as in PE I. |
| 0144 | PES | Segment 9 Event of R\&S Program 5. Range: same as in PE I. |
| 0145 | PE 1 | Segment 1 Event of R\&S Program 6. Range: same as in PE I. |
| 0146 | PE2 | Segment 2 Event of R\&S Program 6. Range: same as in PE I. |
| 0147 | PE3 | Segment 3 Event of R\&S Program 6. Range: same as in PE I. |
| 0148 | PE4 | Segment 4 Event of R\&S Program 6. Range: same as in PE I. |
| 0149 | PES | Segment 5 Event of R\&S Program 6. Range: same as in PE I. |
| 0150 | PE6 | Segment 6 Event of R\&S Program 6. Range: same as in PE I. |
| 0151 | PE 7 | Segment 7 Event of R\&S Program 6. Range: same as in PE 1. |
| 0152 | PEB | Segment 8 Event of R\&S Program 6. Range: same as in PE I. |
| 0153 | PES | Segment 9 Event of R\&S Program 6. Range: same as in PE I. |
| 0154 | PE 1 | Segment 1 Event of R\&S Program 7. Range: same as in PE 1 for Program 1. |
| 0155 | PE2 | Segment 2 Event of R\&S Program 7. Range: same as in PE I. |
| 0156 | PE3 | Segment 3 Event of R\&S Program 7. Range: same as in PE I. |
| 0157 | PE4 | Segment 4 Event of R\&S Program 7. Range: same as in PE I. |
| 0158 | PES | Segment 5 Event of R\&S Program 7. Range: same as in PE I. |
| 0159 | PE6 | Segment 6 Event of R\&S Program 7. Range: same as in PE I. |
| 0160 | PE 7 | Segment 7 Event of R\&S Program 7. Range: same as in PE I. |
| 0161 | PEB | Segment 8 Event of R\&S Program 7. Range: same as in PE I. |
| 0162 | PES | Segment 9 Event of R\&S Program 7. Range: same as in PE I. |
| 0163 | PE 1 | Segment 1 Event of R\&S Program 8. Range: same as in PE I of Program 1. |
| 0164 | PE2 | Segment 2 Event of R\&S Program 8. Range: same as in PE I. |
| 0165 | PE3 | Segment 3 Event of R\&S Program 8. Range: same as in PE I. |
| 0166 | PEY | Segment 4 Event of R\&S Program 8. Range: same as in PE I. |
| 0167 | PES | Segment 5 Event of R\&S Program 8. Range: same as in PE I. |
| 0168 | PE6 | Segment 6 Event of R\&S Program 8. Range: same as in PE I. |


| 0169 | PE 7 | Segment 7 Event of R\&S Program 8. Range: same as in PE I. |
| :---: | :---: | :---: |
| 0170 | PEB | Segment 8 Event of R\&S Program 8. Range: same as in PE I. |
| 0171 | PES | Segment 9 Event of R\&S Program 8. Range: same as in PEI. |
| 0172 | PE 1 | Segment 1 Event of R\&S Program 9. Range: same as in PE I of Program 1. |
| 0173 | PE2 | Segment 2 Event of R\&S Program 9. Range: same as in PE I. |
| 0174 | PE3 | Segment 3 Event of R\&S Program 9. Range: same as in PE I. |
| 0175 | PE4 | Segment 4 Event of R\&S Program 9. Range: same as in PE I. |
| 0176 | PES | Segment 5 Event of R\&S Program 9. Range: same as in PE I. |
| 0177 | PE6 | Segment 6 Event of R\&S Program 9. Range: same as in PE I. |
| 0178 | PE 7 | Segment 7 Event of R\&S Program 9. Range: same as in PEI. |
| 0179 | PEB | Segment 8 Event of R\&S Program 9. Range: same as in PEI. |
| 0180 | PES | Segment 9 Event of R\&S Program 9. Range: same as in PE I. |
| 0181 | PE 1 | Segment 1 Event of R\&S Program 10. Range: same as in PE I of Program 1. |
| 0182 | PE2 | Segment 2 Event of R\&S Program 10. Range: same as in PE I. |
| 0183 | PE3 | Segment 3 Event of R\&S Program 10. Range: same as in PE I. |
| 0184 | PE4 | Segment 4 Event of R\&S Program 10. Range: same as in PE I. |
| 0185 | PES | Segment 5 Event of R\&S Program 10. Range: same as in PE I. |
| 0186 | PE6 | Segment 6 Event of R\&S Program 10. Range: same as in PE I. |
| 0187 | PE 7 | Segment 7 Event of R\&S Program 10. Range: same as in PE I. |
| 0188 | PEB | Segment 8 Event of R\&S Program 10. Range: same as in PE I. |
| 0189 | PES | Segment 9 Event of R\&S Program 10. Range: same as in PE I. |
| 0190 | PE 1 | Segment 1 Event of R\&S Program 11. Range: same as in PE I of Program 1. |
| 0191 | PE2 | Segment 2 Event of R\&S Program 11. Range: same as in PE I. |
| 0192 | PE3 | Segment 3 Event of R\&S Program 11. Range: same as in PE I. |
| 0193 | PE4 | Segment 4 Event of R\&S Program 11. Range: same as in PE I. |
| 0194 | PES | Segment 5 Event of R\&S Program 11. Range: same as in PE I. |
| 0195 | PE6 | Segment 6 Event of R\&S Program 11. Range: same as in PE I. |
| 0196 | PE 7 | Segment 7 Event of R\&S Program 11. Range: same as in PEI. |
| 0197 | PEB | Segment 8 Event of R\&S Program 11. Range: same as in PEI. |
| 0198 | PES | Segment 9 Event of R\&S Program 11. Range: same as in PEI. |
| 0199 | PE 1 | Segment 1 Event of R\&S Program 12. Range: same as in PE I of Program 1. |
| 0200 | PE2 | Segment 2 Event of R\&S Program 12. Range: same as in PE I. |
| 0201 | PE3 | Segment 3 Event of R\&S Program 12. Range: same as in PE I. |
| 0202 | PE4 | Segment 4 Event of R\&S Program 12. Range: same as in PE I. |
| 0203 | PE5 | Segment 5 Event of R\&S Program 12. Range: same as in PE I. |
| 0204 | PE6 | Segment 6 Event of R\&S Program 12. Range: same as in PE I. |
| 0205 | PE 7 | Segment 7 Event of R\&S Program 12. Range: same as in PEI. |
| 0206 | PEB | Segment 8 Event of R\&S Program 12. Range: same as in PEI. |
| 0207 | PES | Segment 9 Event of R\&S Program 12. Range: same as in PEI. |
| 0208 | PE 1 | Segment 1 Event of R\&S Program 13. Range: same as in PE I of Program 1. |
| 0209 | PE2 | Segment 2 Event of R\&S Program 13. Range: same as in PE I. |


| 0210 | PE3 | Segment 3 Event of R\&S Program 13. Range: same as in PE I. |
| :---: | :---: | :---: |
| 0211 | PE4 | Segment 4 Event of R\&S Program 13. Range: same as in PE I. |
| 0212 | PES | Segment 5 Event of R\&S Program 13. Range: same as in PE I. |
| 0213 | PE6 | Segment 6 Event of R\&S Program 13. Range: same as in PE I. |
| 0214 | PE 7 | Segment 7 Event of R\&S Program 13. Range: same as in PE I. |
| 0215 | PEB | Segment 8 Event of R\&S Program 13. Range: same as in PE I. |
| 0216 | PES | Segment 9 Event of R\&S Program 13. Range: same as in PE I. |
| 0217 | PE 1 | Segment 1 Event of R\&S Program 14. Range: same as in PE I of Program 1. |
| 0218 | PE2 | Segment 2 Event of R\&S Program 14. Range: same as in PE I. |
| 0219 | PE3 | Segment 3 Event of R\&S Program 14. Range: same as in PE I. |
| 0220 | PE4 | Segment 4 Event of R\&S Program 14. Range: same as in PE I. |
| 0221 | PES | Segment 5 Event of R\&S Program 14. Range: same as in PE I. |
| 0222 | PE6 | Segment 6 Event of R\&S Program 14. Range: same as in PE I. |
| 0223 | PE 7 | Segment 7 Event of R\&S Program 14. Range: same as in PE I. |
| 0224 | PEB | Segment 8 Event of R\&S Program 14. Range: same as in PE I. |
| 0225 | PES | Segment 9 Event of R\&S Program 14. Range: same as in PE I. |
| 0226 | PE 1 | Segment 1 Event of R\&S Program 15. Range: same as in PE I of Program 1. |
| 0227 | PE2 | Segment 2 Event of R\&S Program 15. Range: same as in PE I. |
| 0228 | PE3 | Segment 3 Event of R\&S Program 15. Range: same as in PE I. |
| 0229 | PE4 | Segment 4 Event of R\&S Program 15. Range: same as in PE I. |
| 0230 | PES | Segment 5 Event of R\&S Program 15. Range: same as in PE I. |
| 0231 | PE6 | Segment 6 Event of R\&S Program 15. Range: same as in PE I. |
| 0232 | PE 7 | Segment 7 Event of R\&S Program 15. Range: same as in PE I. |
| 0233 | PEB | Segment 8 Event of R\&S Program 15. Range: same as in PE 1. |
| 0234 | PES | Segment 9 Event of R\&S Program 15. Range: same as in PE I. |
| 0235 | PE I | Segment 1 Event of R\&S Program 16. Range: same as in PE I of Program 1. |
| 0236 | PE2 | Segment 2 Event of R\&S Program 16. Range: same as in PE I. |
| 0237 | PE3 | Segment 3 Event of R\&S Program 16. Range: same as in PE I. |
| 0238 | PE4 | Segment 4 Event of R\&S Program 16. Range: same as in PE I. |
| 0239 | PES | Segment 5 Event of R\&S Program 16. Range: same as in PE I. |
| 0240 | PE6 | Segment 6 Event of R\&S Program 16. Range: same as in PE I. |
| 0241 | PE 7 | Segment 7 Event of R\&S Program 16. Range: same as in PE I. |
| 0242 | PEB | Segment 8 Event of R\&S Program 16. Range: same as in PE I. |
| 0243 | PES | Segment 9 Event of R\&S Program 16. Range: same as in PE I. |
| 0244 | PE I | Segment 1 Event of R\&S Program 17. <br> Range: same as in PE I of Program 1. |
| 0245 | PE2 | Segment 2 Event of R\&S Program 17. Range: same as in PE I. |
| 0246 | PE3 | Segment 3 Event of R\&S Program 17. Range: same as in PE I. |
| 0247 | PE4 | Segment 4 Event of R\&S Program 17. Range: same as in PE I. |
| 0248 | PES | Segment 5 Event of R\&S Program 17. Range: same as in PE I. |
| 0249 | PE6 | Segment 6 Event of R\&S Program 17. Range: same as in PE I. |
| 0250 | PE 7 | Segment 7 Event of R\&S Program 17. <br> Range: same as in PE I. |


| 0251 | PEB | Segment 8 Event of R\&S Program 17. Range: same as in PE I. |
| :---: | :---: | :---: |
| 0252 | PES | Segment 9 Event of R\&S Program 17. Range: same as in PE I. |
| 0253 | PE 1 | Segment 1 Event of R\&S Program 18. Range: same as in PE I of Program 1. |
| 0254 | PE2 | Segment 2 Event of R\&S Program 18. Range: same as in PE I. |
| 0255 | PE3 | Segment 3 Event of R\&S Program 18. Range: same as in PE I. |
| 0256 | PE4 | Segment 4 Event of R\&S Program 18. Range: same as in PE I. |
| 0257 | PES | Segment 5 Event of R\&S Program 18. Range: same as in PE I. |
| 0258 | PE6 | Segment 6 Event of R\&S Program 18. Range: same as in PE I. |
| 0259 | PE 7 | Segment 7 Event of R\&S Program 18. Range: same as in $\mathbf{P E}$ I. |
| 0260 | PEB | Segment 8 Event of R\&S Program 18. Range: same as in PE I. |
| 0261 | PES | Segment 9 Event of R\&S Program 18. Range: same as in PE I. |
| 0262 | PE 1 | Segment 1 Event of R\&S Program 19. Range: same as in PE I of Program 1. |
| 0263 | PE2 | Segment 2 Event of R\&S Program 19. Range: same as in PE I. |
| 0264 | PE3 | Segment 3 Event of R\&S Program 19. Range: same as in $\mathbf{P E}$ I. |
| 0265 | PE4 | Segment 4 Event of R\&S Program 19. Range: same as in $\mathbf{P E}$ I. |
| 0266 | PES | Segment 5 Event of R\&S Program 19. Range: same as in $\mathbf{P E}$ I. |
| 0267 | PE6 | Segment 6 Event of R\&S Program 19. Range: same as in PE I. |
| 0268 | PE 7 | Segment 7 Event of R\&S Program 19. Range: same as in PE I. |
| 0269 | PEB | Segment 8 Event of R\&S Program 19. Range: same as in PE I. |
| 0270 | PES | Segment 9 Event of R\&S Program 19. Range: same as in PE I. |
| 0271 | PE 1 | Segment 1 Event of R\&S Program 20. Range: same as in PE I of Program 1. |
| 0272 | PE2 | Segment 2 Event of R\&S Program 20. Range: same as in $\mathbf{P E}$ I. |
| 0273 | PE3 | Segment 3 Event of R\&S Program 20. Range: same as in PE I. |
| 0274 | PE4 | Segment 4 Event of R\&S Program 20. Range: same as in PE I. |
| 0275 | PES | Segment 5 Event of R\&S Program 20. Range: same as in PE I. |
| 0276 | PE5 | Segment 6 Event of R\&S Program 20. Range: same as in PE I. |
| 0277 | PE 7 | Segment 7 Event of R\&S Program 20. Range: same as in PE I. |
| 0278 | PEB | Segment 8 Event of R\&S Program 20. Range: same as in PE I. |
| 0279 | PES | Segment 9 Event of R\&S Program 20. Range: same as in PE I. |
| 0280 | PLoL | R\&S Program 1 Tolerance Range: From 0 to (5PML- 5PLL). |
| 0281 | PLoL | R\&S Program 2 Tolerance Range: From 0 to (5PML- 5PLL). |
| 0282 | PLoL | R\&S Program 3 Tolerance Range: From 0 to (5PML- 5PLL). |
| 0283 | PLoL | R\&S Program 4 Tolerance Range: From 0 to (5PML - 5PLL). |
| 0284 | PLoL | R\&S Program 5 Tolerance Range: From 0 to (5PML-5PLL). |
| 0285 | Ptol | R\&S Program 6 Tolerance Range: From 0 to (5PML-5PLL). |
| 0286 | PLoL | R\&S Program 7 Tolerance Range: From 0 to (5PHL- 5PLL). |
| 0287 | PLoL | R\&S Program 8 Tolerance Range: From 0 to (5PML-5PLL). |
| 0288 | PLoL | R\&S Program 9 Tolerance Range: From 0 to (5PML - 5PLL). |
| 0289 | PLoL | R\&S Program 10 Tolerance Range: From 0 to (5PML - 5PLL). |
| 0290 | PLoL | R\&S Program 11 Tolerance Range: From 0 to (5PML-5PLL). |
| 0291 | PLoL | R\&S Program 12 Tolerance Range: From 0 to (5PPL-5PLL). |


| 0292 | PLaL | R\&S Program 13 Tolerance | 0344 | Pt 7 | Time 7 of Program 3. Range: 0 to 9999 minutes. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Range: From 0 to ( $\mathbf{5 P H L}$ - $\mathbf{5 P L L}$ ). | 0345 | PLB | Time 8 of Program 3. Range: 0 to 9999 minutes. |
| 0293 | PLOL | R\&S Program 14 Tolerance | 0346 | Ptg | Time 9 of Program 3. Range: 0 to 9999 minutes. |
|  |  | Range: From 0 to (5PPL-5PLL). | 0347 | PL I | Time 1 of Program 4. Range: 0 to 9999 minutes. |
| 0294 | PLOL | R\&S Program 15 Tolerance <br> Range: From 0 to ( $\mathbf{5 P \mu} \boldsymbol{\mu}$ - $\mathbf{5 P L L}$ ). | 0348 | PL? | Time 2 of Program 4. Range: 0 to 9999 minutes. |
| 0295 | PLGL | R\&S Program 16 Tolerance | 0349 | PLJ | Time 3 of Program 4. Range: 0 to 9999 minutes. |
|  |  | Range: From 0 to ( 5 PML - 5PLL). | 0350 | Pt 4 | Time 4 of Program 4. Range: 0 to 9999 minutes. |
| 0296 | PtaL | R\&S Program 17 Tolerance | 0351 | Pt5 | Time 5 of Program 4. Range: 0 to 9999 minutes. |
|  |  | Range: From 0 to ( $\mathbf{5 P H} \mathbf{L}$ - 5PLL). | 0352 | PLG | Time 6 of Program 4. Range: 0 to 9999 minutes. |
| 0297 | PLOL | R\&S Program 18 Tolerance | 0353 | PL 7 | Time 7 of Program 4. Range: 0 to 9999 minutes. |
| 0298 | Ptol | R\&S Program 19 Tolerance | 0354 | PLB | Time 8 of Program 4. Range: 0 to 9999 minutes. |
| 0298 | PEOL | Range: From 0 to (5PML- SPLL). | 0355 | PLS | Time 9 of Program 4. Range: 0 to 9999 minutes. |
| 0299 | PLGL | R\&S Program 20 Tolerance | 0356 | PL I | Time 1 of Program 5. Range: 0 to 9999 minutes. |
|  |  | Range: From 0 to (5PML- 5PLL). | 0357 | PL? | Time 2 of Program 5. Range: 0 to 9999 minutes. |
| 0300 | LP | R\&S Program 1 Link | 0358 | PL3 | Time 3 of Program 5. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0359 | Pt4 | Time 4 of Program 5. Range: 0 to 9999 minutes. |
| 0301 | LP | R\&S Program 2 Link | 0360 | PLS | Time 5 of Program 5. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0361 | PL6 | Time 6 of Program 5. Range: 0 to 9999 minutes. |
| 0302 | LP | R\&S Program 3 Link Range: 0 to 20 | 0362 | PL 7 | Time 7 of Program 5. Range: 0 to 9999 minutes. |
| 0303 | LP | R\&S Program 4 Link | 0363 | PLB | Time 8 of Program 5. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0364 | PLS | Time 9 of Program 5. Range: 0 to 9999 minutes. |
| 0304 | LP | R\&S Program 5 Link | 0365 | PL I | Time 1 of Program 6. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0366 | PL? | Time 2 of Program 6. Range: 0 to 9999 minutes. |
| 0305 | LP | R\&S Program 6 Link | 0367 | PL3 | Time 3 of Program 6. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0368 | Pt 4 | Time 4 of Program 6. Range: 0 to 9999 minutes. |
| 0306 | LP | R\&S Program 7 Link Range: 0 to 20 | 0369 | PLS | Time 5 of Program 6. Range: 0 to 9999 minutes. |
| 0307 | LP | R\&S Program 8 Link | 0370 | PL6 | Time 6 of Program 6. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0371 | PL 7 | Time 7 of Program 6. Range: 0 to 9999 minutes. |
| 0308 | LP | R\&S Program 9 Link | 0372 | PLB | Time 8 of Program 6. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0373 | PLS | Time 9 of Program 6. Range: 0 to 9999 minutes. |
| 0309 | LP | R\&S Program 10 Link | 0374 | PL i | Time 1 of Program 7. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0375 | Pt2 | Time 2 of Program 7. Range: 0 to 9999 minutes. |
| 0310 | LP | R\&S Program 11 Link <br> Range: 0 to 20 | 0376 | PL3 | Time 3 of Program 7. Range: 0 to 9999 minutes. |
| 0311 | LP | R\&S Program 12 Link | 0377 | Pt 4 | Time 4 of Program 7. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0378 | PLS | Time 5 of Program 7. Range: 0 to 9999 minutes. |
| 0312 | LP | R\&S Program 13 Link | 0379 | PLE | Time 6 of Program 7. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0380 | PL 7 | Time 7 of Program 7. Range: 0 to 9999 minutes. |
| 0313 | LP | R\&S Program 14 Link | 0381 | PLB | Time 8 of Program 7. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0382 | PLG | Time 9 of Program 7. Range: 0 to 9999 minutes. |
| 0314 | LP | R\&S Program 15 Link Range: 0 to 20 | 0383 | PL I | Time 1 of Program 8. Range: 0 to 9999 minutes. |
| 0315 | LP | R\&S Program 16 Link | 0384 | PLL | Time 2 of Program 8. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0385 | Pt3 | Time 3 of Program 8. Range: 0 to 9999 minutes. |
| 0316 | LP | R\&S Program 17 Link | 0386 | Pt 4 | Time 4 of Program 8. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0387 | Pt5 | Time 5 of Program 8. Range: 0 to 9999 minutes. |
| 0317 | LP | R\&S Program 18 Link | 0388 | PL6 | Time 6 of Program 8. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0389 | PL 7 | Time 7 of Program 8. Range: 0 to 9999 minutes. |
| 0318 | LP | R\&S Program 19 Link Range: 0 to 20 | 0390 | PLB | Time 8 of Program 8. Range: 0 to 9999 minutes. |
| 0319 | LP | R\&S Program 20 Link | 0391 | PLS | Time 9 of Program 8. Range: 0 to 9999 minutes. |
|  |  | Range: 0 to 20 | 0392 | PL 1 | Time 1 of Program 9. Range: 0 to 9999 minutes. |
| 0320 | PL 1 | Time 1 of Program 1. Range: 0 to 9999 minutes. | 0393 | PLE | Time 2 of Program 9. Range: 0 to 9999 minutes. |
| 0321 | PL? | Time 2 of Program 1. Range: 0 to 9999 minutes. | 0394 | PL3 | Time 3 of Program 9. Range: 0 to 9999 minutes. |
| 0322 | PL3 | Time 3 of Program 1. Range: 0 to 9999 minutes. | 0395 | Pt 4 | Time 4 of Program 9. Range: 0 to 9999 minutes. |
| 0323 | PL4 | Time 4 of Program 1. Range: 0 to 9999 minutes. | 0396 | PLS | Time 5 of Program 9. Range: 0 to 9999 minutes. |
| 0324 | PLS | Time 5 of Program 1. Range: 0 to 9999 minutes. | 0397 | PLE | Time 6 of Program 9. Range: 0 to 9999 minutes. |
| 0325 | PLE | Time 6 of Program 1. Range: 0 to 9999 minutes. | 0398 | PL 7 | Time 7 of Program 9. Range: 0 to 9999 minutes. |
| 0326 | PL 7 | Time 7 of Program 1. Range: 0 to 9999 minutes. | 0399 | PLB | Time 8 of Program 9. Range: 0 to 9999 minutes. |
| 0327 | PLB | Time 8 of Program 1. Range: 0 to 9999 minutes. | 0400 | PLS | Time 9 of Program 9. Range: 0 to 9999 minutes. |
| 0328 | PLG | Time 9 of Program 1. Range: 0 to 9999 minutes. | 0401 | PL 1 | Time 1 of Program 10. Range: 0 to 9999 minutes. |
| 0329 | PL 1 | Time 1 of Program 2. Range: 0 to 9999 minutes. | 0402 | Pt2 | Time 2 of Program 10. Range: 0 to 9999 minutes. |
| 0330 | PLZ | Time 2 of Program 2. Range: 0 to 9999 minutes. | 0403 | PL3 | Time 3 of Program 10. Range: 0 to 9999 minutes. |
| 0331 | PL3 | Time 3 of Program 2. Range: 0 to 9999 minutes. | 0404 | PL 4 | Time 4 of Program 10. Range: 0 to 9999 minutes. |
| 0332 | PL4 | Time 4 of Program 2. Range: 0 to 9999 minutes. | 0405 | PLS | Time 5 of Program 10. Range: 0 to 9999 minutes. |
| 0333 | PL5 | Time 5 of Program 2. Range: 0 to 9999 minutes. | 0406 | PL6 | Time 6 of Program 10. Range: 0 to 9999 minutes. |
| 0334 | PL6 | Time 6 of Program 2. Range: 0 to 9999 minutes. | 0407 | PL 7 | Time 7 of Program 10. Range: 0 to 9999 minutes. |
| 0335 | PL 7 | Time 7 of Program 2. Range: 0 to 9999 minutes. | 0408 | PLB | Time 8 of Program 10. Range: 0 to 9999 minutes. |
| 0336 | PLB | Time 8 of Program 2. Range: 0 to 9999 minutes. | 0409 | PLS | Time 9 of Program 10. Range: 0 to 9999 minutes. |
| 0337 | PL9 | Time 9 of Program 2. Range: 0 to 9999 minutes. | 410 | Pt 1 | Time 1 of Program 11. Range: 0 to 9999 minutes. |
| 0338 | PL 1 | Time 1 of Program 3. Range: 0 to 9999 minutes. | 411 | Pt2 | Time 2 of Program 11. Range: 0 to 9999 minutes. |
| 0339 | PLZ | Time 2 of Program 3. Range: 0 to 9999 minutes. | 412 | PL3 | Time 3 of Program 11. Range: 0 to 9999 minutes. |
| 0340 | PL3 | Time 3 of Program 3. Range: 0 to 9999 minutes. | 413 | Pt 4 | Time 4 of Program 11. Range: 0 to 9999 minutes. |
| 0341 | PLY | Time 4 of Program 3. Range: 0 to 9999 minutes. | 414 | PLS | Time 5 of Program 11. Range: 0 to 9999 minutes. |
| 0342 | PL5 | Time 5 of Program 3. Range: 0 to 9999 minutes. | 415 | PL6 | Time 6 of Program 11. Range: 0 to 9999 minutes. |
| 0343 | PL6 | Time 6 of Program 3. Range: 0 to 9999 minutes. | 416 | PL 7 | Time 7 of Program 11. Range: 0 to 9999 minutes. |


| 417 | PLB | Time 8 of Program 11. Range: 0 to 9999 minutes. |
| :---: | :---: | :---: |
| 418 | PLS | Time 9 of Program 11. Range: 0 to 9999 minutes. |
| 419 | PL I | Time 1 of Program 12. Range: 0 to 9999 minutes. |
| 420 | PLZ | Time 2 of Program 12. Range: 0 to 9999 minutes. |
| 421 | PL3 | Time 3 of Program 12. Range: 0 to 9999 minutes. |
| 422 | PLY | Time 4 of Program 12. Range: 0 to 9999 minutes. |
| 423 | PLS | Time 5 of Program 12. Range: 0 to 9999 minutes. |
| 424 | PL6 | Time 6 of Program 12. Range: 0 to 9999 minutes. |
| 425 | PL 7 | Time 7 of Program 12. Range: 0 to 9999 minutes. |
| 426 | PLB | Time 8 of Program 12. Range: 0 to 9999 minutes. |
| 427 | PLS | Time 9 of Program 12. Range: 0 to 9999 minutes. |
| 428 | PL 1 | Time 1 of Program 13. Range: 0 to 9999 minutes. |
| 429 | PLZ | Time 2 of Program 13. Range: 0 to 9999 minutes. |
| 430 | PL3 | Time 3 of Program 13. Range: 0 to 9999 minutes. |
| 431 | PL4 | Time 4 of Program 13. Range: 0 to 9999 minutes. |
| 432 | PLS | Time 5 of Program 13. Range: 0 to 9999 minutes. |
| 433 | PL6 | Time 6 of Program 13. Range: 0 to 9999 minutes. |
| 434 | PL 7 | Time 7 of Program 13. Range: 0 to 9999 minutes. |
| 435 | PLB | Time 8 of Program 13. Range: 0 to 9999 minutes. |
| 436 | PLS | Time 9 of Program 13. Range: 0 to 9999 minutes. |
| 437 | PL 1 | Time 1 of Program 14. Range: 0 to 9999 minutes. |
| 438 | PLZ | Time 2 of Program 14. Range: 0 to 9999 minutes. |
| 439 | PL3 | Time 3 of Program 14. Range: 0 to 9999 minutes. |
| 440 | PL4 | Time 4 of Program 14. Range: 0 to 9999 minutes. |
| 441 | PLS | Time 5 of Program 14. Range: 0 to 9999 minutes. |
| 442 | PLE | Time 6 of Program 14. Range: 0 to 9999 minutes. |
| 443 | PL 7 | Time 7 of Program 14. Range: 0 to 9999 minutes. |
| 444 | PLB | Time 8 of Program 14. Range: 0 to 9999 minutes. |
| 445 | PLS | Time 9 of Program 14. Range: 0 to 9999 minutes. |
| 446 | PL I | Time 1 of Program 15. Range: 0 to 9999 minutes. |
| 447 | PLZ | Time 2 of Program 15. Range: 0 to 9999 minutes. |
| 448 | PL3 | Time 3 of Program 15. Range: 0 to 9999 minutes. |
| 449 | PL4 | Time 4 of Program 15. Range: 0 to 9999 minutes. |
| 450 | PLS | Time 5 of Program 15. Range: 0 to 9999 minutes. |
| 451 | PL6 | Time 6 of Program 15. Range: 0 to 9999 minutes. |
| 452 | PL 7 | Time 7 of Program 15. Range: 0 to 9999 minutes. |
| 453 | PLB | Time 8 of Program 15. Range: 0 to 9999 minutes. |
| 454 | PLS | Time 9 of Program 15. Range: 0 to 9999 minutes. |
| 455 | PL I | Time 1 of Program 16. Range: 0 to 9999 minutes. |
| 456 | PLZ | Time 2 of Program 16. Range: 0 to 9999 minutes. |
| 457 | PL3 | Time 3 of Program 16. Range: 0 to 9999 minutes. |
| 458 | PLY | Time 4 of Program 16. Range: 0 to 9999 minutes. |
| 459 | PLS | Time 5 of Program 16. Range: 0 to 9999 minutes. |
| 460 | PL6 | Time 6 of Program 16. Range: 0 to 9999 minutes. |
| 461 | PL 7 | Time 7 of Program 16. Range: 0 to 9999 minutes. |
| 462 | PLB | Time 8 of Program 16. Range: 0 to 9999 minutes. |
| 463 | PLS | Time 9 of Program 16. Range: 0 to 9999 minutes. |
| 464 | PL 1 | Time 1 of Program 17. Range: 0 to 9999 minutes. |
| 465 | PLZ | Time 2 of Program 17. Range: 0 to 9999 minutes. |
| 466 | PL3 | Time 3 of Program 17. Range: 0 to 9999 minutes. |
| 467 | PLY | Time 4 of Program 17. Range: 0 to 9999 minutes. |
| 468 | PLS | Time 5 of Program 17. Range: 0 to 9999 minutes. |
| 469 | PL6 | Time 6 of Program 17. Range: 0 to 9999 minutes. |
| 470 | PL 7 | Time 7 of Program 17. Range: 0 to 9999 minutes. |
| 471 | PLB | Time 8 of Program 17. Range: 0 to 9999 minutes. |
| 472 | PLS | Time 9 of Program 17. Range: 0 to 9999 minutes. |
| 473 | PL I | Time 1 of Program 18. Range: 0 to 9999 minutes. |
| 474 | PLZ | Time 2 of Program 18. Range: 0 to 9999 minutes. |
| 475 | PL3 | Time 3 of Program 18. Range: 0 to 9999 minutes. |
| 476 | PLY | Time 4 of Program 18. Range: 0 to 9999 minutes. |
| 477 | PLS | Time 5 of Program 18. Range: 0 to 9999 minutes. |
| 478 | PL5 | Time 6 of Program 18. Range: 0 to 9999 minutes. |
| 479 | PL 7 | Time 7 of Program 18. Range: 0 to 9999 minutes. |
| 480 | PLB | Time 8 of Program 18. Range: 0 to 9999 minutes. |
| 481 | PLS | Time 9 of Program 18. Range: 0 to 9999 minutes. |
| 482 | PL I | Time 1 of Program 19. Range: 0 to 9999 minutes. |
| 483 | PLZ | Time 2 of Program 19. Range: 0 to 9999 minutes. |
| 484 | PL3 | Time 3 of Program 19. Range: 0 to 9999 minutes. |
| 485 | PLY | Time 4 of Program 19. Range: 0 to 9999 minutes. |
| 486 | PLS | Time 5 of Program 19. Range: 0 to 9999 minutes. |
| 487 | PL6 | Time 6 of Program 19. Range: 0 to 9999 minutes. |
| 488 | PL 7 | Time 7 of Program 19. Range: 0 to 9999 minutes. |
| 489 | PLB | Time 8 of Program 19. Range: 0 to 9999 minutes. |


| 490 | PLG | Time 9 of Program 19. Range: 0 to 9999 minutes. |
| :---: | :---: | :---: |
| 491 | PL 1 | Time 1 of Program 20. Range: 0 to 9999 minutes. |
| 492 | PL? | Time 2 of Program 20. Range: 0 to 9999 minutes. |
| 493 | PL3 | Time 3 of Program 20. Range: 0 to 9999 minutes. |
| 494 | PL4 | Time 4 of Program 20. Range: 0 to 9999 minutes. |
| 495 | PLS | Time 5 of Program 20. Range: 0 to 9999 minutes. |
| 496 | PLE | Time 6 of Program 20. Range: 0 to 9999 minutes. |
| 497 | PL 7 | Time 7 of Program 20. Range: 0 to 9999 minutes. |
| 498 | PLB | Time 8 of Program 20. Range: 0 to 9999 minutes. |
| 499 | PL9 | Time 9 of Program 20. Range: 0 to 9999 minutes. |
| 500 | PSPO | Setpoint 0 of Program 1. Range: From SPLL to SPHL |
| 501 | P5P 1 | Setpoint 1 of Program 1 (R\&S) Range: same as in PSPD. |
| 502 | P5P2 | Setpoint 2 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 503 | P5P3 | Setpoint 3 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 504 | P5P4 | Setpoint 4 of Program 1 (R\&S) <br> Range: same as in P5PD. |
| 505 | P5P5 | Setpoint 5 of Program 1 (R\&S) Range: same as in PSPD. |
| 506 | P5P6 | Setpoint 6 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 507 | P5P7 | Setpoint 7 of Program 1 (R\&S) Range: same as in PSPD. |
| 508 | P5P8 | Setpoint 8 of Program 1 (R\&S) Range: same as in PSPD. |
| 509 | P5P9 | Setpoint 9 of Program 1 (R\&S) Range: same as in PSPD. |
| 510 | P5PS | Setpoint 0 of Program 2. <br> Range: From SPLL to 5PHL |
| 511 | P5P 1 | Setpoint 1 of Program 2 (R\&S) <br> Range: same as in P5PD. |
| 512 | P5P2 | Setpoint 2 of Program (R\&S) <br> Range: same as in PSPD. |
| 513 | P5P3 | Setpoint 3 of Program 2 (R\&S) <br> Range: same as in PSPD. |
| 514 | P5P4 | Setpoint 4 of Program 2 (R\&S) Range: same as in PSPD. |
| 515 | P5P5 | Setpoint 5 of Program 2 (R\&S) Range: same as in PSPD. |
| 516 | P5P6 | Setpoint 6 of Program 2 (R\&S) Range: same as in PSPD. |
| 517 | P5P7 | Setpoint 7 of Program 2 (R\&S) Range: same as in PSPD. |
| 518 | P5P8 | Setpoint 8 of Program 2 (R\&S) Range: same as in PSPD. |
| 519 | P5P9 | Setpoint 9 of Program 2 (R\&S) <br> Range: same as in PSPD. |
| 520 | P5PO | Setpoint 0 of Program 3. Range: From SPLL to 5PHL |
| 521 | P5P 1 | Setpoint 1 of Program 3 (R\&S) <br> Range: same as in PSPD. |
| 522 | P5P2 | Setpoint 2 of Program 3 (R\&S) Range: same as in PSPD. |
| 523 | P5P3 | Setpoint 3 of Program 3 (R\&S) Range: same as in PSPD. |
| 524 | P5P4 | Setpoint 4 of Program 3 (R\&S) Range: same as in PSPD. |
| 525 | P5P5 | Setpoint 5 of Program 3 (R\&S) Range: same as in PSPD. |
| 526 | P5P6 | Setpoint 6 of Program 3 (R\&S) Range: same as in PSPD. |
| 527 | P5P7 | Setpoint 7 of Program 3 (R\&S) Range: same as in PSPD. |
| 528 | P5P8 | Setpoint 8 of Program 3 (R\&S) Range: same as in PSPD. |
| 529 | P5P9 | Setpoint 9 of Program 3 (R\&S) Range: same as in PSPD. |
| 530 | P5PS | Setpoint 0 of Program 4. Range: From 5PLL to 5PHL. |
| 531 | P5P 1 | Setpoint 1 of Program 4 (R\&S) Range: same as in PSPD. |
| 532 | P5P2 | Setpoint 2 of Program 4 (R\&S) Range: same as in PSPD. |
| 533 | P5P3 | Setpoint 3 of Program 4 (R\&S) Range: same as in P5PD. |
| 534 | P5P4 | Setpoint 4 of Program 4 (R\&S) Range: same as in PSPD. |
| 535 | P5P5 | Setpoint 5 of Program 4 (R\&S) Range: same as in PSPD. |


| 536 | P5P6 | Setpoint 6 of Program 4 (R\&S) <br> Range: same as in PSPD. |
| :---: | :---: | :---: |
| 537 | P5P7 | Setpoint 7 of Program 4 (R\&S) Range: same as in PSPD. |
| 538 | P5P8 | Setpoint 8 of Program 4 (R\&S) Range: same as in PSPD. |
| 539 | P5P9 | Setpoint 9 of Program 4 (R\&S) <br> Range: same as in PSPD. |
| 540 | P5PO | Setpoint 0 of Program 5. Range: From SPLL to 5PHL |
| 541 | P5P 1 | Setpoint 1 of Program 5 (R\&S) Range: same as in PSPD. |
| 542 | P5P2 | Setpoint 2 of Program 5 (R\&S) Range: same as in PSPD. |
| 543 | P5P3 | Setpoint 3 of Program 5 (R\&S) Range: same as in PSPD. |
| 544 | P5P4 | Setpoint 4 of Program 5 (R\&S) Range: same as in PSPD. |
| 545 | P5P5 | Setpoint 5 of Program 5 (R\&S) Range: same as in PSPD. |
| 546 | P5P6 | Setpoint 6 of Program 5 (R\&S) Range: same as in PSPD. |
| 547 | P5P7 | Setpoint 7 of Program 5 (R\&S) Range: same as in PSPD. |
| 548 | P5P8 | Setpoint 8 of Program 5 (R\&S) <br> Range: same as in PSPD. |
| 549 | P5P9 | Setpoint 9 of Program 5 (R\&S) <br> Range: same as in PSPD. |
| 550 | P5PV | Setpoint 0 of Program 6. Range: From 5PLL to 5PHL. |
| 551 | P5P 1 | Setpoint 1 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 552 | P5P2 | Setpoint 2 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 553 | P5P3 | Setpoint 3 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 554 | P5P4 | Setpoint 4 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 555 | P5P5 | Setpoint 5 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 556 | P5P6 | Setpoint 6 of Program 6 (R\&S) <br> Range: same as in P5PD. |
| 557 | P5P7 | Setpoint 7 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 558 | P5P8 | Setpoint 8 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 559 | P5P9 | Setpoint 9 of Program 6 (R\&S) <br> Range: same as in PSPD. |
| 560 | P5P | Setpoint 0 of Program 7. Range: From SPLL to 5PHL. |
| 561 | P5P 1 | Setpoint 1 of Program 7 (R\&S) <br> Range: same as in PSPD. |
| 562 | P5P2 | Setpoint 2 of Program 7 (R\&S) <br> Range: same as in PSPD. |
| 563 | P5P3 | Setpoint 3 of Program 7 (R\&S) Range: same as in PSPD. |
| 564 | P5P4 | Setpoint 4 of Program 7 (R\&S) Range: same as in PSPD. |
| 565 | P5P5 | Setpoint 5 of Program 7 (R\&S) Range: same as in PSPD. |
| 566 | P5P6 | Setpoint 6 of Program 7 (R\&S) <br> Range: same as in PSPD. |
| 567 | P5P7 | Setpoint 7 of Program 7 (R\&S) <br> Range: same as in PSPD. |
| 568 | P5P8 | Setpoint 8 of Program 7 (R\&S) <br> Range: same as in PSPD. |
| 569 | P5P9 | Setpoint 9 of Program 7 (R\&S) Range: same as in PSPD. |
| 570 | P5PO | Setpoint 0 of Program 8. Range: From SPLL to SPHL. |
| 571 | P5P 1 | Setpoint 1 of Program 8 (R\&S) Range: same as in PSPD. |
| 572 | P5P2 | Setpoint 2 of Program 8 (R\&S) Range: same as in PSPD. |
| 572 | P5P3 | Setpoint 3 of Program 8 (R\&S) Range: same as in PSPD. |
| 574 | P5P4 | Setpoint 4 of Program 8 (R\&S) Range: same as in PSPD. |
| 575 | P5P5 | Setpoint 5 of Program 8 (R\&S) <br> Range: same as in PSPD. |
| 576 | P5P6 | Setpoint 6 of Program 8 (R\&S) <br> Range: same as in PSPD. |


| 577 | P5P7 | Setpoint 7 of Program 8 (R\&S) Range: same as in PSPD. |
| :---: | :---: | :---: |
| 578 | P5P8 | Setpoint 8 of Program 8 (R\&S) Range: same as in PSPD. |
| 579 | P5P9 | Setpoint 9 of Program 8 (R\&S) Range: same as in PSPD. |
| 580 | P5PG | Setpoint 0 of Program 9. Range: From SPLL to 5PHL |
| 581 | P5P 1 | Setpoint 1 of Program 9 (R\&S) Range: same as in P5PD. |
| 582 | P5P2 | Setpoint 2 of Program 9 (R\&S) <br> Range: same as in PSPD. |
| 583 | P5P3 | Setpoint 3 of Program 9 (R\&S) <br> Range: same as in PSPD. |
| 584 | P5P4 | Setpoint 4 of Program 9 (R\&S) Range: same as in PSPD. |
| 585 | P5P5 | Setpoint 5 of Program 9 (R\&S) Range: same as in PSPD. |
| 586 | P5P6 | Setpoint 6 of Program 9 (R\&S) Range: same as in PSPD. |
| 587 | P5P7 | Setpoint 7 of Program 9 (R\&S) Range: same as in PSPD. |
| 588 | P5P8 | Setpoint 8 of Program 9 (R\&S) Range: same as in PSPD. |
| 589 | P5P9 | Setpoint 9 of Program 9 (R\&S) Range: same as in PSPD. |
| 590 | P5PV | Setpoint 0 of Program 10. Range: From SPLL to 5PHL |
| 591 | P5P 1 | Setpoint 1 of Program 10 (R\&S) Range: same as in PSPD. |
| 592 | P5P2 | Setpoint 2 of Program 10 (R\&S) Range: same as in PSPD. |
| 593 | P5P3 | Setpoint 3 of Program 10 (R\&S) Range: same as in P5PD. |
| 594 | P5P4 | Setpoint 4 of Program 10 (R\&S) Range: same as in PSPD. |
| 595 | P5P5 | Setpoint 5 of Program 10 (R\&S) Range: same as in PSPD. |
| 596 | P5P6 | Setpoint 6 of Program 10 (R\&S) <br> Range: same as in PSPD. |
| 597 | P5P7 | Setpoint 7 of Program 10 (R\&S) <br> Range: same as in P5PD. |
| 598 | P5P8 | Setpoint 8 of Program 10 (R\&S) <br> Range: same as in PSPD. |
| 599 | P5P9 | Setpoint 9 of Program 10 (R\&S) Range: same as in PSPD. |
| 600 | P5PV | Setpoint 0 of Program 11. Range: From SPLL to 5PHL. |
| 601 | P5P 1 | Setpoint 1 of Program 11 (R\&S) Range: same as in PSPD. |
| 602 | P5P2 | Setpoint 2 of Program 11 (R\&S) Range: same as in P5PD. |
| 603 | P5P3 | Setpoint 3 of Program 11 (R\&S) <br> Range: same as in P5PD. |
| 604 | P5P4 | Setpoint 4 of Program 11 (R\&S) Range: same as in PSPD. |
| 605 | P5P5 | Setpoint 5 of Program 11 (R\&S) Range: same as in PSPD. |
| 606 | P5P6 | Setpoint 6 of Program 11 (R\&S) Range: same as in PSPD. |
| 607 | P5P7 | Setpoint 7 of Program 11 (R\&S) Range: same as in P5PD. |
| 608 | P5P8 | Setpoint 8 of Program 11 (R\&S) Range: same as in PSPD. |
| 609 | P5P9 | Setpoint 9 of Program 11 (R\&S) Range: same as in PSPD. |
| 610 | P5PT | Setpoint 0 of Program 12. Range: From SPLL to 5PHL. |
| 611 | P5P 1 | Setpoint 1 of Program 12 (R\&S) Range: same as in PSPD. |
| 612 | P5P2 | Setpoint 2 of Program 12 (R\&S) Range: same as in PSPD. |
| 613 | P5P3 | Setpoint 3 of Program 12 (R\&S) Range: same as in PSPD. |
| 614 | P5P4 | Setpoint 4 of Program 12 (R\&S) Range: same as in P5PD. |
| 615 | P5P5 | Setpoint 5 of Program 12 (R\&S) Range: same as in PSPD. |
| 616 | P5P6 | Setpoint 6 of Program 12 (R\&S) Range: same as in PSPD. |
| 617 | P5P7 | Setpoint 7 of Program 12 (R\&S) <br> Range: same as in PSPD. |


| 618 | P5P8 | Setpoint 8 of Program 12 (R\&S) Range: same as in PSPD. |
| :---: | :---: | :---: |
| 619 | P5P9 | Setpoint 9 of Program 12 (R\&S) Range: same as in PSPD. |
| 620 | P5PG | Setpoint 0 of Program 13. Range: From SPLL to SPHL |
| 621 | P5P 1 | Setpoint 1 of Program 13 (R\&S) Range: same as in PSPD. |
| 622 | P5P2 | Setpoint 2 of Program 13 (R\&S) Range: same as in PSPD. |
| 623 | P5P3 | Setpoint 3 of Program 13 (R\&S) <br> Range: same as in PSPD. |
| 624 | P5P4 | Setpoint 4 of Program 13 (R\&S) <br> Range: same as in P5PD. |
| 625 | P5P5 | Setpoint 5 of Program 13 (R\&S) <br> Range: same as in P5PD. |
| 626 | P5P6 | Setpoint 6 of Program 13 (R\&S) <br> Range: same as in PSPD. |
| 627 | P5P7 | Setpoint 7 of Program 13 (R\&S) Range: same as in PSPD. |
| 628 | P5P8 | Setpoint 8 of Program 13 (R\&S) Range: same as in PSPD. |
| 629 | P5P9 | Setpoint 9 of Program 13 (R\&S) Range: same as in PSPD. |
| 630 | P5PG | Setpoint 0 of Program 14. Range: From SPLL to 5PHL |
| 631 | P5P 1 | Setpoint 1 of Program 14 (R\&S) Range: same as in PSPD. |
| 632 | P5P2 | Setpoint 2 of Program 14 (R\&S) Range: same as in PSPD. |
| 633 | P5P3 | Setpoint 3 of Program 14 (R\&S) Range: same as in PSPD. |
| 634 | P5P4 | Setpoint 4 of Program 14 (R\&S) Range: same as in PSPD. |
| 635 | P5P5 | Setpoint 5 of Program 14 (R\&S) Range: same as in PSPD. |
| 636 | P5P6 | Setpoint 6 of Program 14 (R\&S) Range: same as in PSPD. |
| 637 | P5P7 | Setpoint 7 of Program 14 (R\&S) <br> Range: same as in PSPD. |
| 638 | P5P8 | Setpoint 8 of Program 14 (R\&S) <br> Range: same as in PSPD. |
| 639 | P5P9 | Setpoint 9 of Program 14 (R\&S) <br> Range: same as in PSPD. |
| 640 | P5PD | Setpoint 0 of Program 15. Range: From SPLL to SPHL |
| 641 | P5P 1 | Setpoint 1 of Program 15 (R\&S) <br> Range: same as in PSPD. |
| 642 | P5P2 | Setpoint 2 of Program 15 (R\&S) <br> Range: same as in PSPD. |
| 643 | P5P3 | Setpoint 3 of Program 15 (R\&S) <br> Range: same as in PSPD. |
| 644 | P5P4 | Setpoint 4 of Program 15 (R\&S) <br> Range: same as in PSPD. |
| 645 | P5P5 | Setpoint 5 of Program 15 (R\&S) <br> Range: same as in PSPD. |
| 646 | P5P6 | Setpoint 6 of Program 15 (R\&S) Range: same as in PSPD. |
| 647 | P5P7 | Setpoint 7 of Program 15 (R\&S) Range: same as in PSPD. |
| 648 | P5P8 | Setpoint 8 of Program 15 (R\&S) Range: same as in PSPD. |
| 649 | P5P9 | Setpoint 9 of Program 15 (R\&S) Range: same as in PSPD. |
| 650 | P5PD | Setpoint 0 of Program 16. Range: From SPLL to SPHL |
| 651 | P5P 1 | Setpoint 1 of Program 16 (R\&S) <br> Range: same as in PSPD. |
| 652 | P5P2 | Setpoint 2 of Program 16 (R\&S) Range: same as in PSPD. |
| 653 | P5P3 | Setpoint 3 of Program 16 (R\&S) Range: same as in PSPD. |
| 654 | P5P4 | Setpoint 4 of Program 16 (R\&S) Range: same as in PSPD. |
| 655 | P5P5 | Setpoint 5 of Program 16 (R\&S) Range: same as in PSPD. |
| 656 | P5P6 | Setpoint 6 of Program 16 (R\&S) Range: same as in PSPD. |
| 657 | P5P7 | Setpoint 7 of Program 16 (R\&S) Range: same as in PSPD. |
| 658 | P5P8 | Setpoint 8 of Program 16 (R\&S) <br> Range: same as in PSPD. |


| 659 | P5P9 | Setpoint 9 of Program 16 (R\&S) <br> Range: same as in PSPD. |
| :---: | :---: | :---: |
| 660 | P5PO | Setpoint 0 of Program 17. Range: From SPLL to SPHL. |
| 661 | P5P 1 | Setpoint 1 of Program 17 (R\&S) Range: same as in PSPD. |
| 662 | P5P2 | Setpoint 2 of Program 17 (R\&S) Range: same as in PSPD. |
| 663 | P5P3 | Setpoint 3 of Program 17 (R\&S) <br> Range: same as in P5PD. |
| 664 | P5P4 | Setpoint 4 of Program 17 (R\&S) Range: same as in PSPD. |
| 665 | P5P5 | Setpoint 5 of Program 17 (R\&S) Range: same as in PSPD. |
| 666 | P5P6 | Setpoint 6 of Program 17 (R\&S) Range: same as in PSPD. |
| 667 | P5P7 | Setpoint 7 of Program 17 (R\&S) Range: same as in PSPD. |
| 668 | P5P8 | Setpoint 8 of Program 17 (R\&S) Range: same as in PSPD. |
| 669 | P5P9 | Setpoint 9 of Program 17 (R\&S) Range: same as in PSPD. |
| 670 | P5PO | Setpoint 0 of Program 18. Range: From 5PLL to 5PHL. |
| 671 | P5P 1 | Setpoint 1 of Program 18 (R\&S) Range: same as in PSPD. |
| 672 | P5P2 | Setpoint 2 of Program 18 (R\&S) Range: same as in P5PD. |
| 673 | P5P3 | Setpoint 3 of Program 18 (R\&S) Range: same as in PSPD. |
| 674 | P5P4 | Setpoint 4 of Program 18 (R\&S) Range: same as in PSPD. |
| 675 | P5P5 | Setpoint 5 of Program 18 (R\&S) Range: same as in PSPD. |
| 676 | P5P6 | Setpoint 6 of Program 18 (R\&S) Range: same as in PSPD. |
| 677 | P5P7 | Setpoint 7 of Program 18 (R\&S) Range: same as in PSPD. |
| 678 | P5P8 | Setpoint 8 of Program 18 (R\&S) Range: same as in PSPD. |
| 679 | P5P9 | Setpoint 9 of Program 18 (R\&S) Range: same as in PSPD. |
| 680 | P5PO | Setpoint 0 of Program 19. Range: From SPLL to 5PHL. |
| 681 | P5P 1 | Setpoint 1 of Program 19 (R\&S) Range: same as in P5PD. |
| 682 | P5P2 | Setpoint 2 of Program 19 (R\&S) Range: same as in PSPD. |
| 683 | P5P3 | Setpoint 3 of Program 19 (R\&S) Range: same as in PSPD. |
| 684 | P5P4 | Setpoint 4 of Program 19 (R\&S) Range: same as in P5PD. |
| 685 | P5P5 | Setpoint 5 of Program 19 (R\&S) Range: same as in PSPD. |
| 686 | P5P6 | Setpoint 6 of Program 19 (R\&S) Range: same as in P5PD. |
| 687 | P5P7 | Setpoint 7 of Program 19 (R\&S) Range: same as in PSPD. |
| 688 | P5P8 | Setpoint 8 of Program 19 (R\&S) Range: same as in P5PD. |
| 689 | P5P9 | Setpoint 9 of Program 19 (R\&S) Range: same as in PSPD. |
| 690 | P5PO | Setpoint 0 of Program 1. <br> Range: From SPLL to 5PHL. |
| 691 | P5P 1 | Setpoint 1 of Program 1 (R\&S) Range: same as in PSPD. |
| 692 | P5P2 | Setpoint 2 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 693 | P5P3 | Setpoint 3 of Program 1 (R\&S) Range: same as in PSPD. |
| 694 | P5P4 | Setpoint 4 of Program 1 (R\&S) Range: same as in PSPD. |
| 695 | P5P5 | Setpoint 5 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 696 | P5P6 | Setpoint 6 of Program 1 (R\&S) Range: same as in PSPD. |
| 697 | P5P7 | Setpoint 7 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 698 | P5P8 | Setpoint 8 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 699 | P5P9 | Setpoint 9 of Program 1 (R\&S) <br> Range: same as in PSPD. |
| 700 | Reserved | Internal use |


| Register | Value format |
| :---: | :---: |
| Status Word 1 | ```bit 0 - Alarm 1 (0-inactive; 1-active) bit 1 - Alarm 2 (0-inactive; 1-active) bit 2 - Alarm 3 (0-inactive; 1-active) bit 3 - Alarm 4 (0-inactive; 1-active) bit 4 - Input 0 - I/O 5 ( 0 - inactive; 1 - active) bit 5 - Input 1 - I/O 3 (0- inactive; 1- active) bit 6 - Input 2 - I/O 4 (0- inactive; 1- active) bit 7 - Reserved bit 8 - Hardware detection value bit 9 - Hardware detection value bit 10 - Reserved bit 11 - Reserved bit 12 - Reserved bit 13 - Reserved bit 14 - Reserved bit 15 - Reserved``` |
| Status Word 2 | ```bit 0 - Automatic (0- manual; 1- automatic) bit 1 - Run (0-stop; 1-run) bit 2 - Control Action (0-direct; 1-reverse) bit 3 - Reserved bit 4 - Auto-tune (0-no; 1-yes) bit 5 - Alarm 1 power-up inhibit (0-no; 1-yes) bit 6 - Alarm 2 power-up inhibit (0-no; 1-yes) bit 7 - Alarm 3 power-up inhibit (0-no; 1-yes) bit 8 - Alarm 4 power-up inhibit (0-no; 1-yes) bit 9 - Unit (0-С; 1-ๆ) bit 10 - Reserved bit 11 - Output 1 status bit 12 - Output 2 status bit 13 - Output 3 status bit 14 - Output 4 status bit 15 - Output 5 status``` |
| Status Word 3 | bit 0 - Very low PV conversion (0-no; 1-yes) <br> bit 1 - Negative conversion after calibration (0-no; 1-yes) <br> bit 2 - Very high PV conversion (0-no; 1-yes) <br> bit 3 - Exceeded linearization limit (0-no; 1-yes) <br> bit 4 - Very high Pt100 cable resistance (0-no; 1-yes) <br> bit 5 - Self zero conversion out of range ( 0 -no; 1 -yes) <br> bit 6 - Self span conversion out of range ( $0-\mathrm{no} ; 1$-yes) <br> bit 7 - Reserved <br> bit 8 - Reserved <br> bit 9 - Reserved <br> bit 10 - Reserved <br> bit 11 - Reserved <br> bit 12 - Reserved <br> bit 13 - Reserved <br> bit 14 - Reserved <br> bit 15 - Reserved |

Writing to an output bit is only possible if the output has no function assigned to it (the output is configured to OFF in Alarm Cycle).

| Coil Status | Output description |
| :---: | :--- |
| 1 | Output 1 Status (I/O1) |
| 2 | Output 2 Status (I/O2) |
| 3 | Output 3 Status (I/O3) |
| 4 | Output 4 Status (I/O4) |
| 5 | Output 5 Status (I/O5) |

## Exception Responses - Error Conditions

The MODBUS RTU protocol checks the CRC in the data blocks received.
Reception errors are detected by the CRC, causing the controller to discard the packet, not sending any reply to the master.

After receiving an error-free packet, the controller processes the packet and verifies whether the request is valid or not, sending back an exception error code in case of an invalid request. Response frames containing error codes have the most significant bit of the Modbus command set.

If a WRITE command sends an out-of-range value to a parameter, the controller will clamp the value to the parameter range limits, replying with a value that reflects these limits (maximum or minimum value allowed for the parameter).

The controller ignores broadcast READ commands; the controller processes only broadcast WRITE commands.

| Error Code | Error Description |
| :---: | :--- |
| 01 | Invalid Command |
| 02 | Invalid Register Number or out of range |
| 03 | Invalid Register Quantity or out of range |
|  | Table 3-Exception response error codes |

