

C.2 Module versions that allow run-time change of Siemens defined Process data variants

模块版本，允许西门子定义的运行时更改
过程数据变量

C.2.1 Module version "32 I bytes I/ 12 bytes O"

User data

The module uses 32 bytes of input user data and 12 bytes of output user data. Measured variables can be read cyclically via user data (Bytes 2 ... 31) or asynchronously via measured value data records.

If you select the "32 bytes I/12 bytes O" module version, then you must also select a "Process data variant". In RUN mode, you can change to 21 of the 22 different Process data variants. The variant names indicate the different sets of measurements that are available to your program.

All Process data variant options, except EE@Industry measurement data profile e3, require 32 input bytes and 12 output bytes. The "EE@Industry measurement data profile e3" requires 112 input bytes and 12 output bytes. If you want to do RUN mode Process data variant switching that includes the EE@Industry measurement data profile e3, then you must assign the module version "112 bytes I /12 bytes O".

The actual measurement data that is transferred to the input I bytes and read by your program depends on the Process data variant selection.

You can find details about all Process data variants and the measurements they provide in the Overview of Process data variant options (Page 126) section of appendix C.

All 22 different Process data variants use the same 12 byte output format.

Structure of input user data

You can change the type of measurement data provided to the user data program interface dynamically, by changing the Process data variant which changes the measurement data available in the user data program interface.

Table C- 3 Structure of input user data (32 I bytes)

Byte	Validity	Designation	Comment
0	Module	Process data variant ID	Active Process data variant indicator
1	Module	Quality information	Quality bits describe the quality of the basic measured values
2 ... 31	Module or phase	Data	2 or 4 bytes of measured values or calculated values, according to active Process data variant

处理数据变量的ID，固定值。不同的测量选项此值的数字不同，但数值是固定的

Assignment of the input user data

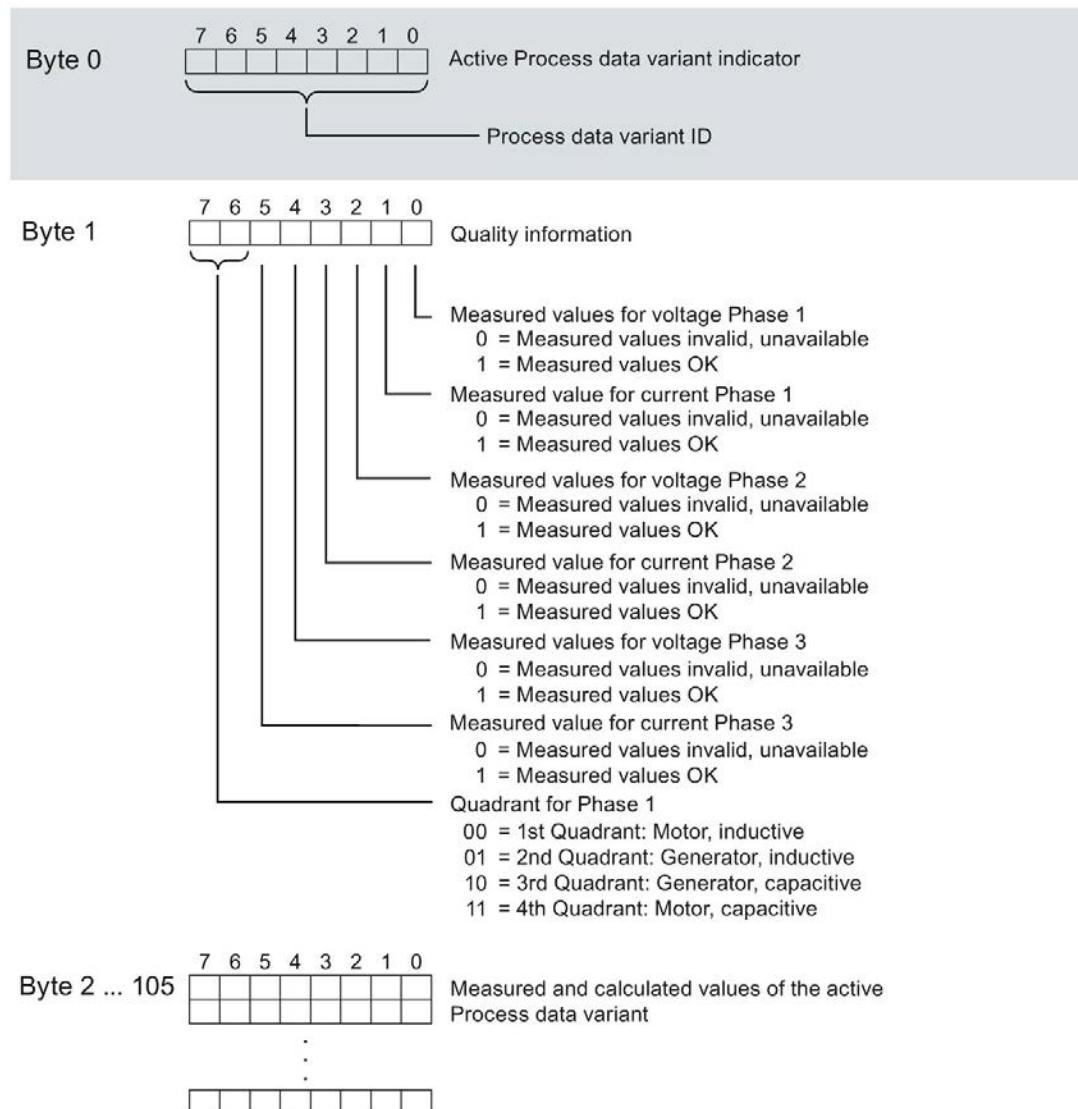


Figure C-3 Assignment of the input user data (32 bytes)

Structure of output user data for all Process data variants (12 Q byte addresses)

The structure of the output user data is fixed and is the same for all Process data variants.

Using the output user data you can control all or individual phase actions

- Resetting minimum values, maximum values, operating hours counter, and energy counters.
- Gate control for operating hours counter and energy counters.

C.2 Module versions that allow run-time change of Siemens defined Process data variants

输出用户数据结构 12字节

Table C- 4 Structure of output user data (12 bytes)

Byte	Validity	Designation	Comment	转换过程数据变量的控制字节
0	Module	Process data variant	Control byte for switching the Process data variant	
1	Module	Control byte 1	Global resetting of values and counters, gate	全局数值和计数器复位，门开关
2	Module	Control byte 2	Selection of the energy counter to be reset	2个字节配合使用，一个用来复位，一个用来选择复位哪些变量
3	Module	Reserved	-	
4	Module	Reserved	-	
5	Module	Reserved	-	
6	Phase L1	Control byte 6	Phase-specific resetting of values and counters, gate for Phase 1	
7	Phase L1	Control byte 7		
8	Phase L2	Control byte 8	Phase-specific resetting of values and counters, gate for Phase 2	
9	Phase L2	Control byte 9		
10	Phase L3	Control byte 10	Phase-specific resetting of values and counters, gate for Phase 3	
11	Phase L3	Control byte 11		

Control byte for changing Process data variant

Figure C-4 Assignment of the control byte for Process data variant selector (Byte 0)

Control bytes for all three phases

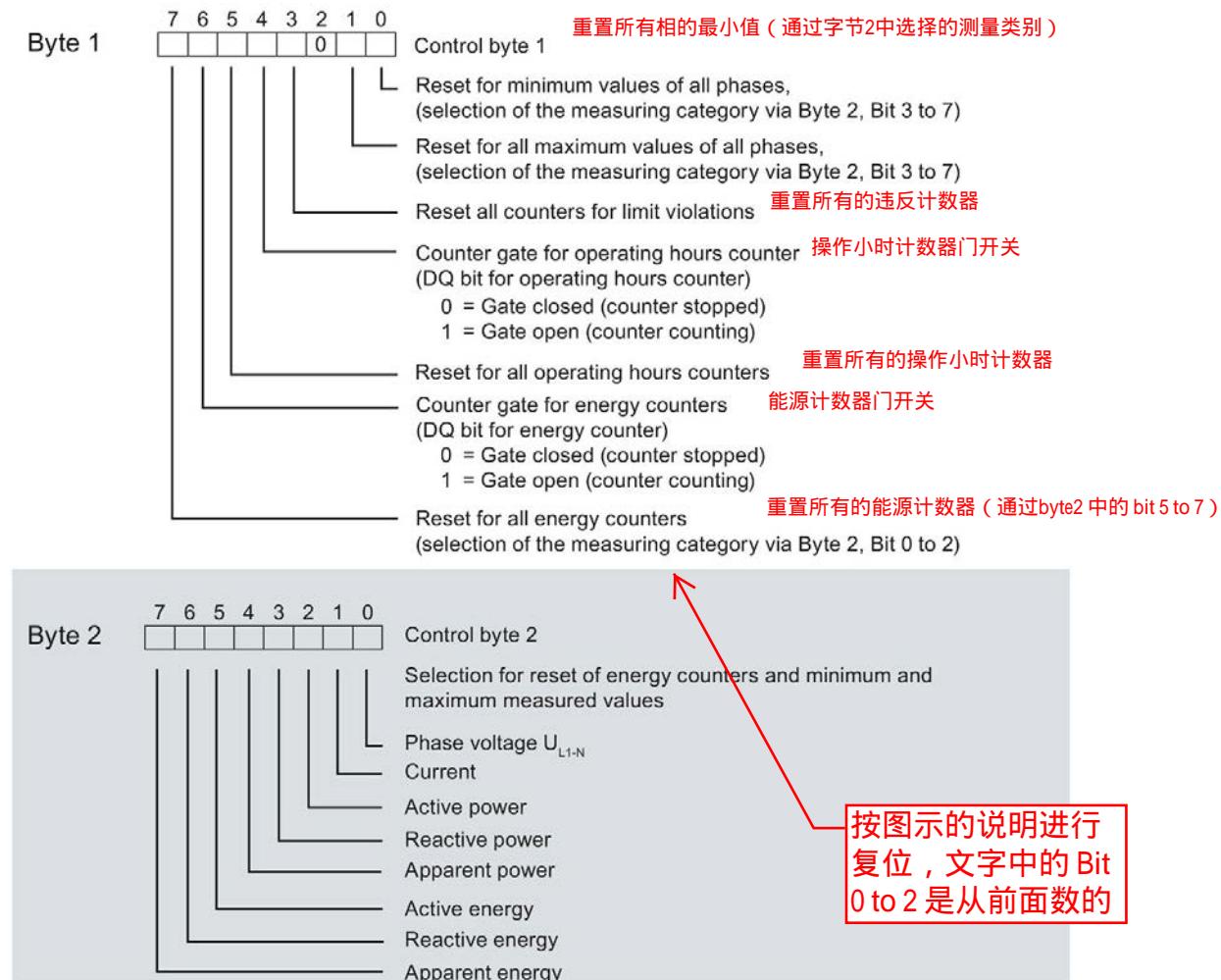


Figure C-5 Assignment of the control bytes for all three phases (bytes 1 and 2)

Control bytes for each individual phase

每个单独相的控制字节

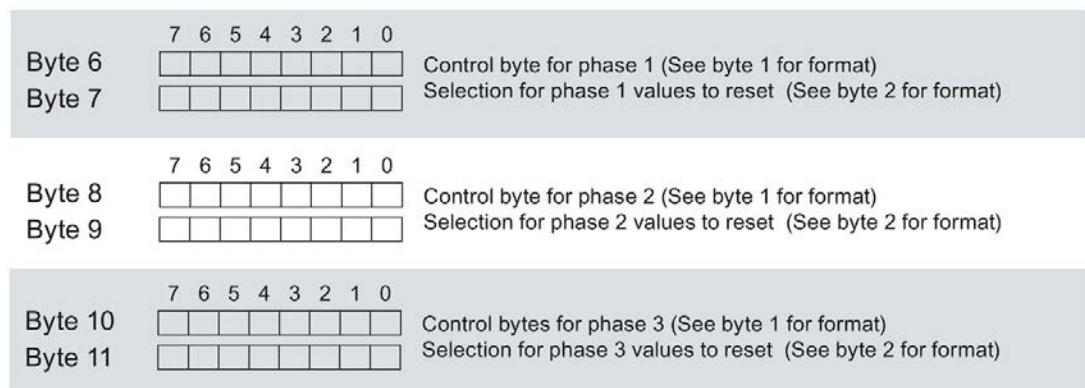


Figure C-6 Assignment of the control bytes for each individual phase (bytes 6 to 11)

C.2.2 Module version "112 bytes I/ 12 bytes O"

User data

The module uses 112 bytes of input user data and 12 bytes of output user data. Measured variables can be read cyclically via user data (Bytes 2 ... 111) or asynchronously via measured value data records.

If you select the "112 bytes I/ 12 bytes O" module version, then you must also select a "Process data variant". In RUN mode, you can switch to any one of the 22 Process data variants that provide different types of measurement data to your program.

All Process data variant options, except EE@Industry measurement data profile e3, require 32 input bytes and 12 output bytes. The "EE@Industry measurement data profile e3" requires 112 input bytes and 12 output bytes. If you select this module version that allocates 112 input bytes, then sufficient input byte addresses are allocated to switch to any of the (32 input byte) Process data variants.

The actual measurement data that is transferred to the input I bytes and read by your program depends on the Process data variant selection.

You can find details about all Process data variants and the measurements they provide in the "Process data variant" options (Page 126) section of appendix C.

All 22 Process data variants use the same 12 byte output format.

Structure of input user data (112 I byte addresses)

You can change the type of measurement data provided to the user data program interface dynamically, by changing the Process data variant which changes the measurement data in the user data program interface.

Table C- 5 Structure of input user data (112 I bytes)

Byte	Validity	Designation	Comment
0	Module	Process data variant ID	Active Process data variant indicator
1	Module	Quality information	Quality bits to describe the quality of the basic measured values
2 ... 31	Module or phase	Data	2 or 4 bytes of measured values or calculated values according to the Process data variant (for variant with 32 input bytes)
2 ... 105	Module or phase	Data	4 byte measured values or calculated values (for EE@Industry measurement data profile E3 - 112 input bytes)

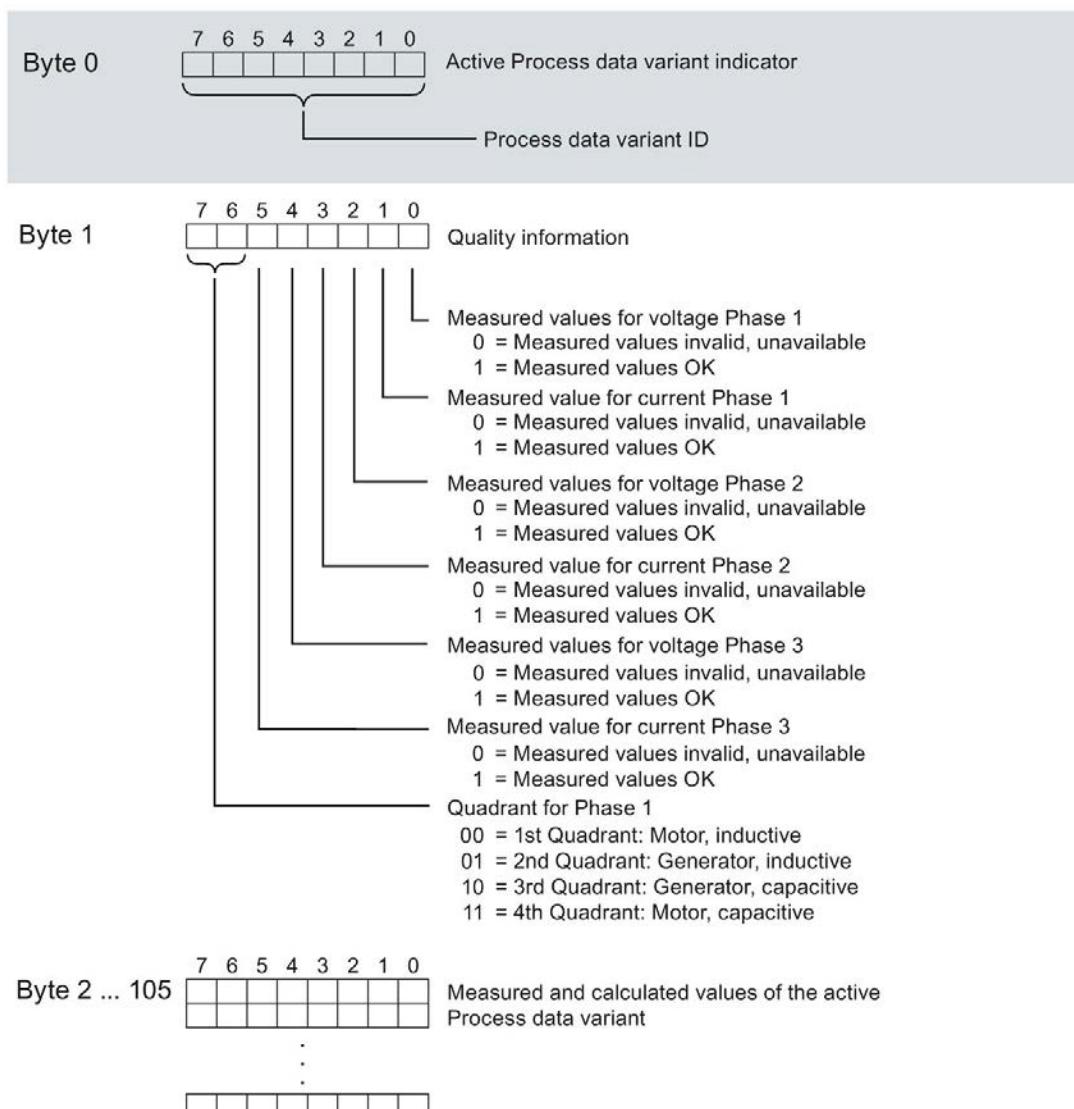


Figure C-7 Assignment of the input user data (112 bytes)

Structure of output user data for all Process data variants (12 Q byte addresses)

The structure of the output user data is fixed and is the same for all the Process data variants.

Using the output user data you can control all or individual phase actions

- Resetting minimum values, maximum values, operating hours counter, and energy counters.
- Gate control for operating hours counter and energy counters.

Table C- 6 Structure of output user data (12 bytes)

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Byte	Validity	Designation	Comment
0	Module	Process data variant	Control byte for switching the Process data variant
1	Module	Digital control outputs	Reset of values, counters, and gate control
2	Module	Digital control outputs	Selection of the energy counter to be reset
3	Module	Reserved	-
4	Module	Reserved	-
5	Module	Reserved	-
6	Phase L1	Control byte 6	Phase-specific resetting of values and counters, gate for Phase 1
7	Phase L1	Control byte 7	
8	Phase L2	Control byte 8	Phase-specific resetting of values and counters, gate for Phase 2
9	Phase L2	Control byte 9	
10	Phase L3	Control byte 10	Phase-specific resetting of values and counters, gate for Phase 3
11	Phase L3	Control byte 11	

Control byte for changing Process data variant

Figure C-8 Assignment of the control byte for Process data variant selector (Byte 0)

Control bytes for all three phases

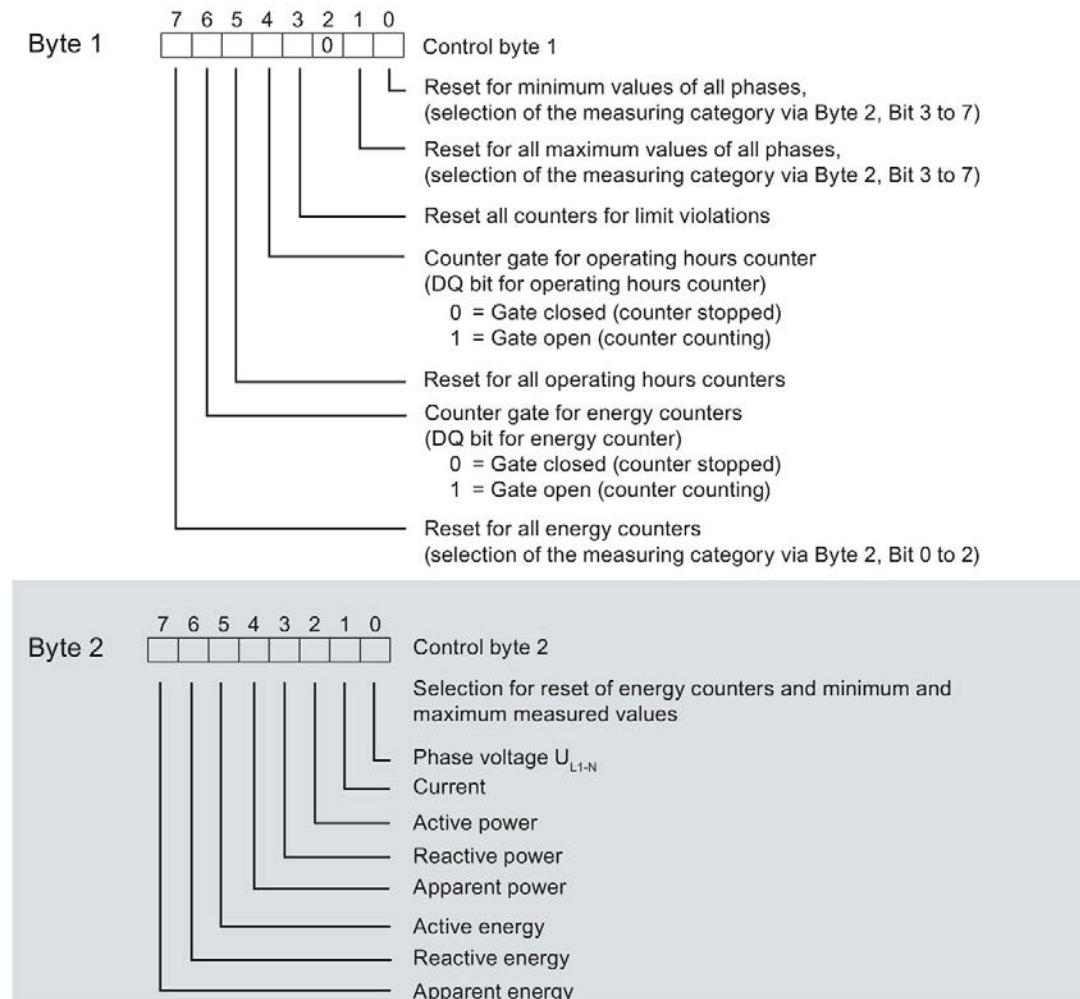


Figure C-9 Assignment of the control bytes for all three phases (bytes 1 and 2)