

PLC Jobs

B

This section of the Appendix contains a list of all PLC jobs and their relevant parameters.

Description

PLC jobs can be used to initiate functions on the TD/OP from the PLC program for the purposes of

- displaying screens
- setting date and time
- altering general settings

A PLC job consists of 4 data words. The first data word contains the job number. Data words 2 to 4 are used to transfer up to three parameters depending on the function in question. The basic structure of a PLC job is shown in Figure B-1.

Address	Left byte (LB)	Right byte (RB)
1st word	0	Job no.
2nd word	Parameter 1	
3rd word	Parameter 2	
4th word	Parameter 3	

Figure B-1 Structure of a PLC Job

Listing

All PLC jobs that are possible on the various OPs are listed below along with their parameters. The **No.** column shows the PLC job number. In general, PLC jobs can only be initiated **by the PLC** when the OP is in online mode.

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
2	Blank Screen	●	●	-	-	-	-	-	●	●	●	●	●	●	●
	Parameter 1 0: Off 1: On														
	Parameter 2, 3 -														
3	Print Screen	●	●	-	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1, 2, 3 -														
4	Activate Port	-	-	-	-	-	-	-	●	●	●	●	●	●	●
	Parameter 1 Port number: 1..4 on OP20 1..8 on OP25/OP27/TP27 1..16 on OP35/OP37/TP37														
	Parameter 2 LB: Keyboard number (not applicable in case of TP): 1..4 on OP20 1 on OP25/35, OP27/37 RB: 0														
	Parameter 3 0: Off 3: On														
4	Set Relay	●	●	-	-	-	-	-	●	●	●	●	●	●	●
	Parameter 1 0														
	Parameter 2 LB: FF _H RB: FF _H														
	Parameter 3 0: Off 3: On														
5	Select Directory														
	Parameter 1 1: Directory: screens, display	-	●	-	●	●	●	●	●	-	-	-	-	-	-
	2: Directory: recipes, display	-	-	-	●	●	●	●	●	-	-	-	-	-	-
	4: Directory: print screens	-	●	-	●	●	●	●	●	-	-	-	-	-	-
	5: Directory: print recipes	-	-	-	●	●	●	●	●	-	-	-	-	-	-
	7: Directory: recipes, data record transfer	-	-	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 2, 3 -														
7	Print All Screens	-	●	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 1, 2, 3 -														
10	Print recipe with all data records	-	-	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 1 Recipe number (1..99)														
	Parameter 2, 3 -														
11	Select Function Screen														
	The following screens integrated in the firmware can be selected by their (fixed) object numbers.														
	Parameter 1 LB: Cursor lock (0: Off, 1: On)	-	-	-	●	●	●	●	●	-	-	-	-	-	-
	RB: Function screen number														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
	Alarm message buffer														
	1 Buffer output	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	2 Output number of messages	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	3 Overflow warning on/off	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	4 Delete buffer yes/no	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Event messages buffer														
	5 Buffer output	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	6 Output number of messages	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	7 Overflow warning on/off	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	8 Delete buffer yes/no	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Alarm message statistics														
	15 Frequency and duration of fault per group	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	16 Frequency and duration of fault per message	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	17 Average fault times	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	18 Average acknowledgement time	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	19 Delete buffer yes/no	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Event message statistics														
	20 Frequency and duration per group	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	21 Frequency and duration per message	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	22 Total number and duration	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	23 Delete buffer yes/no	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	PU functions														
	25 Status VAR	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	26 Force VAR	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Special functions														
	30 Select language, brightness (contrast)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	31 Change operating mode	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Settings														
	35 Set time/date	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	36 Internal interface (OP5/OP7: V.24; OP15/OP17: IF1)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	37 Module interface (OP5/OP7: TTY; OP15/OP17: IF2)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	38 Printer parameters	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	40 Message type	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Message texts														
	45 Display alarm message texts	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	46 Display event message texts	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	System messages														
	50 Output system message buffer	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Passwords														
	55 Login	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	56 Password entry	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Parameter 2, 3	•	•	•	•	•	•	•	•	•	•	•	•	•	•
12	Enable/disable message logging	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Parameter 1	0: Off													
		1: On													
	Parameter 2, 3	•	•	•	•	•	•	•	•	•	•	•	•	•	•

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
13	Change Language	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1														
	0: 1st language														
	1: 2nd language														
	2: 3rd language														
	Parameter 2, 3														
14	Set Time (BCD format)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1														
	LB: –														
	RB: Hours (0..23)														
	Parameter 2														
	LB: Minutes (0..59)														
	RB: Seconds (0..59)														
	Parameter 3														
15	Set Date (BCD format)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1														
	LB: –														
	RB: Day of week (1..7: Sunday...Saturday)														
	Parameter 2														
	LB: Day of month (1..31)														
	RB: Month (1..12)														
	Parameter 3														
16	Internal Interface Parameters (OP5/OP7: V.24; OP15/OP17/TD17: IF1)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1														
	Value for parameter 2														
	Baud rate (FAP and printer only)														
	0: 300 baud														
	1: 600 baud														
	2: 1200 baud														
	3: 2400 baud														
	4: 4800 baud														
	5: 9600 baud														
	6: 19200 baud (FAP only)														
	Data bits (FAP and printer only)														
	0: 7 data bits														
	1: 8 data bits														
	Stop bits (FAP and printer only)														
	0: 1 stop bit														
	1: 2 stop bits														
	Parity (FAP and printer only)														
	0: Even														
	1: Odd														
	2: None														
	OP address 1..30 (only on SINEC L1)														
	Parameter 2														
	Interface parameters to be set														
	0: Baud rate														
	1: Data bits														
	2: Stop bits														
	3: Parity														
	4: OP address (SINEC L1 only)														
	Parameter 3														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
17	Module Interface Parameters (OP5/OP7: TTY; OP15/OP17: IF2)	●	●	-	●	●	●	●	●	-	-	-	-	-	-
Parameter 1	Value for parameter 2														
	Baud rate (FAP only)														
	0: 300 baud														
	1: 600 baud														
	2: 1200 baud														
	3: 2400 baud														
	4: 4800 baud														
	5: 9600 baud														
	6: 19200 baud														
	Data bits (FAP only)														
	0: 7 data bits														
	1: 8 data bits														
	Stop bits (FAP only)														
	0: 1 stop bit														
	1: 2 stop bits														
	Parity (FAP only)														
	0: Even														
	1: Odd														
	2: None														
	OP address														
	1..30 (SINEC L1)														
	1..31 (PROFIBUS)														
	3..122 (PROFIBUS-DP)														
	PLC address 1..126 (PROFIBUS only)														
	TD/OP-SAP 0..63 (PROFIBUS only)														
	PLC SAP 0..63 (PROFIBUS only)														
Parameter 2	Interface parameters to be set														
	0: Baud rate														
	1: Data bits														
	2: Stop bits														
	3: Parity														
	4: OP address														
	(SINEC L1, PROFIBUS and PROFIBUS-DP only)														
	5: PLC address (PROFIBUS only)														
	6: TD/OP-SAP (PROFIBUS only)														
	7: PLC SAP (PROFIBUS only)														
Parameter 3	-														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
19	Printer parameters	●	●	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 1 Value for parameter 2														
	Number of characters per line														
	0: 20 Characters/line														
	1: 40 Characters/line														
	2: 80 Characters/line														
	Number of lines per page														
	0: 60 Lines/page														
	1: 61 Lines/page														
	:														
	12: 72 Lines/page														
	Parameter 2 Printer parameters to be set														
	0: Number of characters per line														
	1: Number of lines per page														
	Parameter 3 -														
21	Alarm message display mode	-	●	-	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1 0: First (oldest message)														
	1: Last (most recent message)														
	Parameter 2, 3 -														
22	Set display brightness	●	●	-	-	-	-	-	●	-	-	-	-	-	-
	Parameter 1 0..9 (corresponds to 10%..100% intensity)														
	Parameter 2, 3 -														
	Set display contrast	-	-	●	●	●	●	●	-	-	-	-	-	-	-
	Parameter 1 0..15														
	Parameter 2, 3 -														
23	Set password level	-	●	-	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1 0..9														
	0 = Lowest password level														
	9 = Highest password level														
	Parameter 2, 3 -														
24	Password logout	-	●	-	●	●	●	●	●	●	●	●	●	●	●
	Parameter 1, 2, 3 -														
29	Print production report	-	●	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 1, 2, 3 -														
31	Print alarm buffer	-	●	-	●	●	●	●	●	-	-	-	-	-	-
	Parameter 1 0: Print chronologically														
	1: Print grouped														
	Parameter 2, 3 -														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
45	Get acknowledgement area from PLC	-	•	-	•	•	•	•	•	•	•	•	•	•	•
Parameter 1	Area pointer no.: 1.4 on TD20, OP20, OP5/15, OP7/17 1.8 on OP25/35, OP27/37, TP27/37														
Parameter 2, 3	-														
47	Transfer LED area directly to OP	-	-	-	-	-	•	•	•	•	•	•	•	-	-
Parameter 1	Area pointer no.: 1.4 on OP15/OP17/OP20 1.8 on OP25/35, OP27/37														
Parameter 2	LED assignment: 1st word														
Parameter 3	LED assignment: 2nd word														
	In contrast with PLC job no. 42 (Get LED area from PLC) the LED assignment area is transferred directly with the PLC job in this case resulting in more rapid activation of the LED.														
	The specified LED area must not be configured larger than 2 DW!														
48	Select menu (only for configuration with COM TEXT)														
Parameter 1	Menu number in standard menu														
	1 Message level (including configuration with ProTool)	•	•	-	•	•	•	•	•	-	-	-	-	-	-
	2 Main menu	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	3 Alarm messages	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	12 Print alarm messages	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	4 Event messages	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	14 Print event messages	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	5 Screens	-	-	-	•	•	•	•	•	-	-	-	-	-	-
	6 Recipes	-	•	-	-	-	-	-	•	-	-	-	-	-	-
	7 Statistics functions	-	•	-	-	-	-	-	•	-	-	-	-	-	-
	18 Alarm message statistics	-	•	-	-	-	-	-	•	-	-	-	-	-	-
	19 Event message statistics	-	-	•	•	•	•	•	•	-	-	-	-	-	-
	8 PU functions	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	9 Special functions	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	24 System messages	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	23 Message texts	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	22 Settings	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	10 Password	-	•	•	•	•	•	•	•	-	-	-	-	-	-
Parameter 2	Menu item number 0: First menu item 1..20 Other menu items														
Parameter 3	-														
49	Delete event buffer	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Parameter 1, 2, 3	-														
50	Delete alarm buffer	-	•	-	•	•	•	•	•	•	•	•	•	•	•
Parameter 1, 2, 3	-														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
51	Select Screen	-	•	-	•	•	•	•	•	•	•	•	•	•	•
	Parameter 1	LB: Cursor lock (0: Off, 1: On)	-	-	•	•	•	•	-	-	-	-	-	-	-
		RB: Screen number	-	•	•	•	•	•	•	•	•	•	•	•	•
		1..99 on TD20, OP20, OP5/15, OP7/17													
		1..255 on OP25/35, OP27/37, TP27/37													
	Parameter 2	Entry number 0..99 (0 = Cursor is positioned on first available entry)	-	•	•	•	•	•	-	-	-	-	-	-	-
	Parameter 3	Field number:	-	•	•	•	•	•	•	•	•	•	•	•	•
		1..8 on TD20, OP20, OP5, OP7													
		1..32 on OP15, OP17													
		1..255 on OP25/35, OP27/37, TP27/37													
		Output fields are ignored for serial number purposes.													
		Note re. TD20, OP20, OP5/15, OP7/17: The input fields of an entry are number consecutively: 0 Entry number field 1 First input field : n Last input field The numbering of the input fields starts from 1 again for each entry.													
52	Print screen	-	•	-	•	•	•	•	•	-	-	-	-	-	-
	Parameter 1	Screen number (1..99) in Byte format													
	Parameter 2, 3	-													
53	Select recipe	-	-	-	•	•	•	•	•	-	-	-	-	-	-
	Parameter 1	LB: Cursor lock (0: Off, 1: On)													
		RB: Recipe number 1..99													
	Parameter 2	Data record number 1..99													
	Parameter 3	LB: Entry number (0..99) (0 = Cursor is positioned on first available entry)													
		RB: Field number (0/1)													
		The input fields of an entry are number consecutively: 0 Entry number field 1 First input field : n Last input field The numbering of the input fields starts from 1 again for each entry.													
		Output fields are ignored for serial number purposes.													
54	Print recipe	-	-	-	•	•	•	•	•	-	-	-	-	-	-
	Parameter 1	Recipe number (1..99)☒													
	Parameter 2	Data record number(1..99)													
	Parameter 3	-													

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
69	Transfer recipe data record from PLC to OP	-	-	-	•	•	•	•	•	•	•	•	•	•	•
Parameter 1	Recipe number: 1..99 on OP20, OP5/15, OP7/17 Code word 1: on OP25/35, OP27/37, TP27/37														
Parameter 2	Data record number 1..99 on OP20, OP5/15, OP7/17 Code word 2: on OP25/35, OP27/37, TP27/37														
Parameter 3	0, 1 on OP20, OP5/15, OP7/17 0: Data record is not overwritten 1: Data record is overwritten Code word 3: on OP25/35, OP27/37, TP27/37														
70	Transfer recipe data record from OP to PLC	-	-	-	•	•	•	•	•	•	•	•	•	•	•
Parameter 1	Recipe number: 1..99 on OP20, OP5/15, OP7/17 Code word 1: on OP25/35, OP27/37, TP27/37														
Parameter 2	Data record number: 1..99 on OP20, OP5/15, OP7/17 Code word 2: on OP25/35, OP27/37, TP27/37														
Parameter 3	- on OP20, OP5/15, OP7/17 Code word 3: on OP25/35, OP27/37, TP27/37														
71	Partial screen update	-	•	-	•	•	•	•	•	-	-	-	-	-	-
Parameter 1	0: Off 1: On														
Parameter 2, 3	-														
This job may only be activated when no screen is selected!															
72	Position cursor on current screen or in current recipe	-	•	-	•	•	•	•	•	•	•	•	•	•	•
Parameter 1	Entry number: 0..99														
Parameter 2	Field number: 1..8 on TD20, OP20, OP5, OP7 1..32 on OP15, OP17 1..255 on OP25/35, OP27/37, TP27/37														
Parameter 3	Cursor lock (0: Off, 1: On)														
73	Position cursor on current function screen	-	-	•	•	•	•	•	•	-	-	-	-	-	-
Parameter 1	Field number (0..8)														
Parameter 2	Cursor lock (0: Off, 1: On)														
Parameter 3	-														

No.	Function	TD10	TD20	TD17	OP5	OP7	OP15	OP17	OP20	OP25	OP27	OP35	OP37	TP27	TP37
74	Simulate keyboard	-	•	•	•	•	•	•	•	-	-	-	-	-	-
	Parameter 1														
	LB: Keyboard number														
	1 TD20: system keyboard														
	OP20: internal function keyboard														
	OP5/15: internal function keyboard														
	OP7/17: internal function keyboard														
	2 OP20: system keyboard														
	OP5/15: system keyboard														
	OP7/17: system keyboard														
	TD17: system keyboard														
	3 OP20: external function keyboard (16 keys)														
	4 OP20: external function keyboard (24 keys)														
	RB: Password level														
	0: is analyzed														
	1: is not analyzed														
	Parameter 2														
	LB: First Key Code														
	Parameter 3														
	-														
	A summary of the key codes for the OPs is given in Chapter B.2.														
	When performing keyboard simulation by PLC job, the transmission time from PLC to OP must be taken into account. The acknowledgement of an alarm message from the PLC by keyboard simulation can, under certain circumstances, bring about an undesirable result if														
	- the alarm message concerned has already been acknowledged by operator input on the OP,														
	- an new alarm message or a system message arrives before the PLC job is analyzed.														
75	Scroll event messages	•	-	•	-	-	-	-	-	-	-	-	-	-	-
	Parameter 1														
	0: Off														
	1: On														
	Parameter 2, 3														
	-														

B.1 PLC Jobs – Special Cases

Jobs with cursor lock

If any of the jobs 11, 51, 53, 72 or 73 is initiated with a value other than 0 specified for the parameter "Cursor lock", the selected input field can not be exited using the arrow keys or the ESC key. The cursor lock is not cancelled until

- the job is repeated specifying cursor lock = 0,
- another job that changes the display is executed.

If an attempt is made to exit the input field while the cursor lock is active the system message "\$400 Illegal input" is displayed.

The cursor lock is not possible on the graphic display units.