SIEMENS

Data sheet

6ES7151-7AA21-0AB0



SIMATIC DP, IM151-7 CPU for ET200S, 128 KB work memory with integrated PROFIBUS DP interface (9-pole D-sub socket) as DP slave, without battery SIMATIC MMC required

General information	
HW functional status	01
Firmware version	V3.3
Product function	
Isochronous mode	No
Engineering with	
 Programming package 	as of STEP 7 V5.5 + SP1 or as of V5.2 + SP1 + HSP 219 or as of STEP 7 TIA Portal V11
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes; against destruction
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
Input current	
Inrush current, typ.	1.8 A
l²t	0.09 A ² ·s
from supply voltage 1L+, max.	320 mA; 410 mA with DP master module
Output current	
for backplane bus (5 V DC), max.	700 mA
Power loss	
Power loss, typ.	4.2 W
Memory	
Work memory	
 integrated 	128 kbyte
• expandable	No
Load memory	
• Plug-in (MMC)	Yes
 Plug-in (MMC), max. 	8 Mbyte
 Data management on MMC (after last programming), min. 	10 у
Backup	
present	Yes; Ensured by SIMATIC Micro Memory Card (maintenance-free)
CPU processing times	
for bit operations, typ.	0.06 µs
for word operations, typ.	0.12 µs

for fived point arithmatic tup	0.16.00
for fixed point arithmetic, typ.	0.16 µs
for floating point arithmetic, typ.	0.59 µs
CPU-blocks	
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	be reduced by the mino doed.
Number, max.	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	04 Kbyte
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
 Number, max. 	See S7-300 operation list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
Number of process alarm OBs	1; OB 40
Number of DPV1 alarm OBs	
	3; OB 55, 56, 57
Number of startup OBs	1; OB 100
 Number of asynchronous error OBs 	6; OB 80, 82, 83 (for centralized I/O only, not for distributed I/O), 85, 86, 87
 Number of synchronous error OBs 	2; OB 121, 122
Nesting depth	
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	200
— adjustable	Yes
— lower limit	0
— upper limit	255
	Z 0 to Z 7
— preset	
Counting range	0
— lower limit	0
— upper limit	999
IEC counter	Vec
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	256
Number Detentivity	256
Retentivity	N/
— adjustable	Yes
— lower limit	0
— upper limit	255
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	

Retentive data area (incl. timers, counters, flags), max.	64 kbyte
Flag	
• Size, max.	256 byte
Retentivity available	Yes; MB 0 to MB 255
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	
 Retentivity adjustable 	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
 per priority class, max. 	32 kbyte; Max. 2048 bytes per block
Address area	
I/O address area	
Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	
— Inputs	2 048 byte
— Outputs	2 048 byte
Process image	
Inputs	2 048 byte
Outputs	2 048 byte
 Inputs, adjustable 	2 048 byte
 Outputs, adjustable 	2 048 byte
 Inputs, default 	128 byte
 Outputs, default 	128 byte
Digital channels	
Inputs	16 336
— of which central	496
Outputs	16 336
— of which central	496
Analog channels	
Inputs	1 021
— of which central	124
Outputs	1 021
— of which central	124
Hardware configuration	
Number of modules per system, max.	63; Centralized
Mounting rail	63; Centralized
Mounting rail Number of mounting rails that can be used 	1
Mounting rail Number of mounting rails that can be used Length of mounting rail, max. 	
Mounting rail Number of mounting rails that can be used 	1
Mounting rail Number of mounting rails that can be used Length of mounting rail, max. 	1
Mounting rail Number of mounting rails that can be used Length of mounting rail, max. Time of day	1
Mounting rail Number of mounting rails that can be used Length of mounting rail, max. Time of day Clock	1 Station width: \leq 1 m or $<$ 2 m
Mounting rail Number of mounting rails that can be used Length of mounting rail, max. Time of day Clock Hardware clock (real-time) 	1 Station width: ≤ 1 m or < 2 m Yes
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max.	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number range • Range of values	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101)
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Range of values • Granularity	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101) 1 h
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number • Range of values • Granularity • retentive	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101)
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number • Range of values • Granularity • retentive Clock synchronization	1 Station width: ≤ 1 m or < 2 m Yes Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101) 1 h Yes; Must be restarted at each restart
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number • Range of values • Granularity • retentive Clock synchronization	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101) 1 h Yes; Must be restarted at each restart Yes
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number • Range of values • Granularity • retentive Clock synchronization • supported • to MPI, master	1 Station width: ≤ 1 m or < 2 m
Mounting rail • Number of mounting rails that can be used • Length of mounting rail, max. Time of day Clock • Hardware clock (real-time) • retentive and synchronizable • Backup time • Deviation per day, max. • Behavior of the clock following POWER-ON • Behavior of the clock following expiry of backup period Operating hours counter • Number • Number • Range of values • Granularity • retentive Clock synchronization	1 Station width: ≤ 1 m or < 2 m Yes 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 1 0 0 to 2^31 hours (when using SFC 101) 1 h Yes; Must be restarted at each restart Yes

	N .
• to DP, slave	Yes
• in AS, master	No
• in AS, slave	No
Interfaces	
Interfaces/bus type	1 x MPI/PROFIBUS DP
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
Output current of the interface, max.	80 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	Yes; active / passive
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes; With master module
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes; Only server, configured on one side
— S7 communication, as client	No
— S7 communication, as server	Yes
PROFIBUS DP slave	
• GSD file	The latest GSD file is available on the Internet (http://www.siemens.com/profibus-gsd)
Transmission rate, max.	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
Address area, max.	32
 User data per address area, max. 	32 byte; Up to max. size of the transfer memory
Services	52 byte, op to max. Size of the transfer memory
— PG/OP communication	Yes
- Routing	Yes; Only with active, integrated DP slave interface and inserted DP
louding	master module in DP master mode
— Global data communication	No
- S7 basic communication	No
— S7 communication	Yes; Only server, configured on one side
— S7 communication, as client	No
— S7 communication, as server	Yes
 — Direct data exchange (slave-to-slave 	Yes
communication)	
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	External interface via master module 6ES7138-4HA00-0AB0
Isolated	Yes
Interface types	
• RS 485	Yes
Output current of the interface, max.	No
Protocols	
• MPI	No
PROFIBUS DP master	Yes
PROFIBUS DP slave	No
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s

 Number of DP slaves, max. 	32: Per station
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	Yes; I blocks only
— S7 communication	Yes; Only server, configured on one side
— S7 communication, as client	No
— S7 communication, as server	Yes
— Equidistance	Yes
- Isochronous mode	No
- SYNC/FREEZE	Yes
- Activation/deactivation of DP slaves	Yes
 Number of DP slaves that can be simultaneously activated/deactivated, max. 	8
— Direct data exchange (slave-to-slave	Yes
communication)	Vee
— DPV1	Yes
Address area	2 kby to
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
Protocols	
Open IE communication	
• TCP/IP	No
communication functions / header	
PG/OP communication	Yes
Data record routing	Yes; With DP master module
Global data communication	
supported	Yes
 Number of GD loops, max. 	8
 Number of GD packets, max. 	8
 Number of GD packets, transmitter, max. 	8
 Number of GD packets, receiver, max. 	8
 Size of GD packets, max. 	22 byte
 Size of GD packet (of which consistent), max. 	22 byte
S7 basic communication	
 supported 	Yes
• User data per job, max.	76 byte
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or
	X_GET as server)
S7 communication	
supported	Yes
• as server	Yes
• as client	No
• User data per job, max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
• User data per job (of which consistent), max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
Number of connections	
• overall	12
usable for PG communication	11
	1
— adjustable for PG communication, min.	1
-	1
— adjustable for PG communication, max.	
usable for OP communication	11
- reserved for OP communication	1
— adjustable for OP communication, min.	1
 adjustable for OP communication, max. 	11

• usable for S7 basic communication 10 - = adjustable for S7 basic communication, min. 0 - = adjustable for S7 basic communication, min. 10 • usable for routing 4. As slave only with active interface, with IM 151-7 CPU as DP master 7 message functions 12 Number of login stations for message functions, max. 12. Togenating on the configured connections for PGOP and S7 basic communication Process diagnatic messages Yes: ALARM_S. ALARM_S. ALARM_S. ALARM_D. ALARM_D. Status block Yes: Up to 2 simultaneously Signle stato Yes: Up to 2 simultaneously Signle stato Yes: Up to 2 simultaneously Status block Yes: Up to 2 simultaneously Signle stato Number of envines, max. <th>• upphie for \$7 basis communication</th> <th>10</th>	• upphie for \$7 basis communication	10
- adjustable for S7 basic communication, max. • usable for nothing 4: As slave only with active interface, with IM 151-7 CPU as DP master S7 massage functions Process disgnostic message functions, max. Process disgnostic messages Simultaneously active Alarm-S block, max. 300 Test commissioning functions Status block • Ves; ALARM, S, ALARM, SC, ALARM, SO, ALARM, D, ALARM, DO Simultaneously active Alarm-S block, max. 300 - Status block • Ves; ALARM, S, ALARM, SC, ALARM, SO, ALARM, D, ALARM, DO Simultaneously active Alarm-S block, max. • Status block • Ves; ALARM, S, ALARM, SC, ALARM, SO, ALARM, SO, ALARM, D, ALARM, D, ALARM, J, DO Simultaneously active Alarm-S block, max. • Status block • Ves; ALARM, S, ALARM, SC, ALARM, SO, ALARM, J, DO Simultaneously • Simultaneously active Alarm-S block, max. • Status block • Number of variables, max. • Of which option Variables, max. • Degressite Infer • Poreing • Forcing, variables • Number of variables, max. • Of which option Variables, max. • Of the prosent • Number of variables, max. • Of which option Proof • Number of entries, reader of Withon Option Variables, max. • Of which option Proof • Number of entries, reader of Withon Option Proof • Number of entries reader of Withon Option Proof • Number of entries reader of Withon Option Proof • Number of entries reader of Withon Option Proof • Option Proof Proof Proof Proof Proof		
• Lasble for routing 4 : As slave only with active interface, with IM 151-7 CPU as DP master 57 massage functions 12: Depending on the configured connections for PGIOP and S7 basic multianeously active Atam-S blocks, mer. Process diagnostic messages Yes; ALARM_S, ALARM_SQ, ALARM_SQ, ALARM_DQ, ALARM_DQ simultaneously active Atam-S blocks, mer. 300 Fact connectioning functions 4 Status block Yes; Up to 2 simultaneously Single step Yes • Variables 10 • Variables Yes • Variables 10 • Variables 10 • Porcing Yes • Forcing, variables, max. 30 • Porcing Yes • Number of entities, max. 10 • Porcing Yes • Porcing Yes • Number of entities, max. 10 • Porcing Yes • Number of entities, max. 10 • Porcing Yes • Number of entities, max. 10 • Origination full Yes • Diagnostic inditation Yes	-	
97 message functions 12. Depending on the configured connections for PG/OP and S7 basic communication Process diagnostic messages Yes; ALARM, S. ALARM, S. ALARM, S.Q. ALARM, D.Q. Sinutiancousey active Alarm-S blocks, max. 300 Feit Commissioning functions 5 Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status block Yes • Orthich status variables, max. 30 of which status variables, max. 14 Dagostic buffer • prosent Yes • Number of rentins, max. 500 adjustable No adjustable No adjustable No adjustable No - preset 100	-	
Number of login stations for message functions, max. 12: Depending on the configured connections for PG/OP and S7 basic Process diagnostic messages Yes, ALARM_S, ALARM_SC, ALARM_SO, ALARM_DO, ALARM_DO simulaneously active Alarm's blocks, max. 300 Test commissioning functions 4 Status block Yes Single step Yes • Variables Iputs, outputs, memory bits, DB, times, counters • Variables Iputs, outputs, memory bits, DB, times, counters • Variables Iputs, outputs • Number of variables, max. 30 - of which status variables, max. 10 Degensetic buffer Ves • Number of entries, max. 500 - adjustable No - adjustable No • Number of entries, max. 500 - adjustable Yes • Number of entries, max. 500	-	
Process disgnostic messages Yes; ALARM, S, ALARM, SQ, ALARM, D, ALARM, DQ simultaneously active Atam-S blocks, max. 300 Status block Yes; Up to 2 simultaneously Status/control 4 Status/control 4 • Variables Number of variables, max. - of which status variables, max. 30 - of which status variables, max. 30 - of which status variables, max. 14 Forcing Yes • Forcing, variables Inputs, outputs • Number of entries, max. 500 - of which powerfall-proof 100, Only the last 100 entries are retained • Number of entries, max. 500 - adjustable No - adjustable No - adjustable No - adjustable Yes Diagnostic function Yes <td></td> <td></td>		
simultaneously active Alarm-S blocks, max. 300 Fest commissioning functions Status block. Yes Yes Number of breakpoints 4 Statusstoontrol 1 • Statusstoontrol Yes • Variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which status variables, max. 30 - of which status variables, max. 14 Forcing Yes • Forcing, outputs, outputs 10 Diagnosisc buffer Yes • present 500 • Number of variables, max. 10 Diagnosisc buffer Yes • present Yes • Number of entries readable in RUN, max. 49 • adjustable No - of which powerfail-proof 100. Chrly the last 100 entries are retained • Number of entries readable in RUN, max. 499 • adjustable 10 • can be read out Yes • Diagnostics function Yes Diagnostics induction LED Yes • Group error SF (red) Yes • Group error SF (red) Yes Diagnostic induction LED Yes • Monitoring 24 voltage supply (ON (green)		
Fest commissioning functions Status block. Yes, Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status control Inputs, outputs, memory bits, DB, times, counters • Variables 30 - of which status variables, max. 30 - of which status variables, max. 30 - of which status variables, max. 14 Forcing Yes • Forcing, variables Inputs, outputs • Number of variables, max. 10 Diagnostic buffer Persent • Present Yes • Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - preset 10 Status data Yes - adjustable Yes - bagnostic sinction Yes Diagnostic sinction Yes Diagnostic sinction Yes Diagnostic sindication LED Forcing Prorer SF (re		
Status block Yes Single step Yes Number of breakpoints 4 Statuscontrol Inputs, outputs, memory bits, DB, times, counters • Variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which status variables, max. 14 Forcing Yes • Forcing, variables Inputs, outputs • Number of variables, max. 10 Diagnostic buffer 90 • of which status variables, max. 10 Diagnostic buffer 90 • of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries casable in RUN, max. 499 - adjustable Yes • adjustable Yes • adjustable Yes • Diagnostic studie in RUN, max. 499 - adjustable Yes • can be read out Yes Interrupt-tidigenostic/status information Yes Diagnostic function Yes </td <td></td> <td>300</td>		300
Single step Yes Number of breakpoints 4 Status/control variable Yes • Variables Inputs, outputs, memory bits, DB, times, counters • Variables Number of variables, max. • of which status variables, max. 30 • of which status variables, max. 30 • of which control variables, max. 14 Forcing Yes • Forcing, variables, max. 10 Diagnostic buffer Yes • Number of variables, max. 500 adjustable No adjustable No adjustable No adjustable No adjustable Yes, From 10 to 499 adjustable Yes adjustable Yes InterruptS(diagnostics/status Information Yes InterruptS(diagnostics/status Information Yes Diagnostics indication LED Yes - Ordiguration rules Yes Diagnostics indication LED Solv VDC Degree and class of protection IP20 <td>Test commissioning functions</td> <td></td>	Test commissioning functions	
Number of breakpoints 4 Statusicontrol Statusicontrol • Statusicontrol variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which status variables, max. 14 Forcing Yes • Forcing (structure) variables, max. 14 • Porcing (structure) variables, max. 14 • Porcing (structure) variables, max. 10 Diagnostic buffet Yes • present (structure) variables, max. 500 - of which powerfail-proof 100; Only the last 100 entries are retained • Number of variables, max. 500 - of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - preset 10 Status and and the readout Yes Interrupts/diagnestics/status information Yes Diagnostics function Yes	Status block	Yes; Up to 2 simultaneously
Status/control • Status/control variable • Variables • Number of variables, max. 30 - of which status variables, max. 31 • Forcing • Status/Force • Number of entries, max. • Outputs • No - of which powerfail-proof • No - of which powerfail-proof • On Only the last 100 entries are retained • No • Adams • Adams • Adams • Adams • Adams • Yes • Diagnostics function • Yes • Diagnostics indication LED • Forcing 24 V voltage supply ON (green) • Yes • Solation • Monthroing 24 V voltage supply ON (green) • Yes • Solation trues • Forcing 24 Voltage supply ON (green) • Program for protection		
Status/control variable Ves Variables Inputs, outputs, memory bits, DB, times, counters Number of variables, max.		4
• Variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which control variables, max. 14 Forcing • Forcing, variables • Forcing, variables Inputs, outputs • Forcing, variables Inputs, outputs • Romer of variables, max. 10 Diagnostic buffer Yes • Number of entries, max. 500 adjustable No adjustable No adjustable No adjustable Yes • Number of entries readable in RUN, max. 499 adjustable Yes • Interrupts/diagnostics/status information Interrupts/diagnostics/status information Alarms Yes Diagnostics function Yes Diagnostics function Yes Diagnostics function Yes Potential separation Yes between PROFIBUS DP and all other circuit components Yes IP degree of protection IP20 configuration rules max 63 peripheral modules per station; station width < 1 m or < 2 m; max 10 A per load group (yower module), master interface module on right next to MI 151-7 CPU (X2 interface)		
Number of variables, max. 30		
of which status variables, max. 30 of which control variables, max. 14 Forcing Forcing • Forcing, variables Inputs, outputs • Number of variables, max. 10 Diagnostic buffer		
− of which control variables, max. 14 Forcing Forcing, variables Inputs, outputs ● Forcing, variables, max. 10 Diagnostic buffer Yes ● present Yes ● Number of entries, max. 500 − adjustable No − adjustable No − adjustable No − adjustable No − adjustable Yes − adjustable Yes, From 10 to 499 − preset 10 − adjustable Yes, From 10 to 499 − adjustable Yes • Can be read out Yes Interrupts/idiagnostics/istatus information Yes Diagnostics function Yes Diagnostics function Yes • Monitoring 24 V voltage supply ON (green) Yes Isolation Stop Pietoction Isolation tested with 500 V DC • Degree and class of protection IP20 configuration / header max. 63 perip		
Forcing Yes • Forcing Inputs, outputs • Number of variables, max. 10 Diagnostic buffer • present • adjustable • adjustable Number of entries, max. • adjustable • preset 100: Only the last 100 entries are retained • Number of entries readable in RUN, max. • adjustable • adjustable • preset 10 Service data • can be read out Yes Interrupts/diagnostics/status information Yes Diagnostics function Yes Diagnostics function ED • Group error SF (red) Yes Yes Potential separation Solation tested with 500 V DC Degree and class of protection IP20 configuration / header Configuration / header Configuration software • STEP 7 Lite Command set * See instruction list * Neating levels * System function SICC) * Syste		
 Forcing, variables Forcing, variables, max. Inputs, outputs Number of variables, max. Diagnostic buffer Number of entries, max. Status Number of entries, max. Status Aumber of entries, max. Aumber of entries readable in RUN, max. Aging and the read on the readable in RUN, max. Aging and the read on the readable in RUN, max. Aging and the read on the read on the readable in RUN, max. Aging and the read on th		14
 Forcing, variables, max. Number of variables, max. Diagnostic buffer present variables, max. forcing, variable buffer or adjustable No of which powerfail-proof No (Only the last 100 entries are retained Number of entries readable in RUN, max. dijustable of which powerfail-proof No (Only the last 100 entries are retained Ves, From 10 to 499 preset preset oran be read out Yes, From 10 to 499 preset arms Yes Interrupts/diagnostics/status information Aarms Yes Potential separation Ves Potential separation Isolation Isolation Isolation Isolation Sol V DC Degree and class of protection IP20 configuration rules max. 63 peripheral modules per station, station width <1 m or <2 m; max. 10 A per load group (power module; master interface module on right next to IM 151-7 CPU (X2 Interface) Configuration rules STEP 7 Lite No configuration software System functions (SFC) see instruction list System function blocks (SFB) see instruction list System functions (SFC) see instruction list System functions blocks (SFB) see instruction list System functions (SFC) see instruction list System functions (SFC) see instruction list System fu		Vos
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• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming language		No
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System functions (SFC) see instruction list System function blocks (SFB) see instruction list Programming language LAD Yes	Command set	see instruction list
System function blocks (SFB) see instruction list Programming language LAD Yes	Nesting levels	8
Programming language — LAD Yes	 System functions (SFC) 	see instruction list
- LAD Yes	 System function blocks (SFB) 	see instruction list
	Programming language	
FBD Yes	— LAD	Yes
	— FBD	Yes

— STL	Yes
— SCL	Yes; Optional
— CFC	Yes; Optional
— GRAPH	Yes; Optional
— HiGraph®	Yes; Optional
Know-how protection	
 User program protection/password protection 	Yes
Block encryption	Yes; With S7 block Privacy
programming / cycle time monitoring / header	
lower limit	1 ms
• upper limit	6 000 ms
adjustable	Yes
• preset	150 ms
Dimensions	
Width	60 mm; DP master module: 35 mm
Height	119.5 mm
Depth	75 mm
Weights	
Weight, approx.	200 g; DP master module: Approx. 100 g

last modified:

8/24/2021 🖸