Data sheet
CC 03, Commander Compact (603-1CC21)

Technical data

Order no.	603-1CC21
Type	CC 03, Commander Compact

General information

Note	-
Features	Display: 2 x 20 characters Interface: MP²I User memory: 128 kB Languages: DE, EN, FR, ES, IT, SV, NO, DA Project engineering via VIPA OP-Manager or Siemens ProTool Integrated PLC-CPU: 16/24kByte work/load memory, 16 x DI, 16 x DO, up to 4 I/O expansion modules

Display

Number of rows	2
Characters per row	20
Character height	5 mm
Type of display	STN with LED backlighting

OP functionality

User memory	128 KB
Number of variables	4096
Language	DE/EN/FR/ES/IT/SV/NO/DA

Operating controls

Touchscreen	-
Mouse	-
Number of system keys	8
Number of soft keys	5

Technical data power supply

Power supply (rated value)	DC 24 V
Power supply (permitted range)	DC 20.4...28.8 V
Reverse polarity protection	✓
Current consumption (no-load operation)	130 mA
Current consumption (rated value)	1 A
Inrush current	60 A
I²t	0.35 A²s
Max. current drain at backplane bus	0.8 A
Power loss	8 W
Reverse polarity protection	✓

Technical data digital inputs

Number of inputs	16
Cable length, shielded	1000 m
Cable length, unshielded	600 m

Rated load voltage	DC 24 V
Reverse polarity protection of rated load voltage	✔
Current consumption from load voltage L+ (without load)	-
Rated value	DC 24 V
Input voltage for signal "0"	DC 0...5 V
Input voltage for signal "1"	DC 15...28.8 V
Input current for signal "1"	7 mA
Connection of Two-Wire-BEROs possible	✔
Max. permissible BERO quiescent current	1.5 mA
Input delay of "0" to "1"	3 ms
Input delay of "1" to "0"	3 ms
Input characteristic curve	IEC 61131-2, type 1
Initial data size	2 Byte

Technical data digital outputs

Number of outputs	16
Cable length, shielded	1000 m
Cable length, unshielded	600 m
Rated load voltage	DC 24 V
Reverse polarity protection of rated load voltage	-
Current consumption from load voltage L+ (without load)	50 mA
Total current per group, horizontal configuration, 40°C	4 A
Total current per group, horizontal configuration, 60°C	4 A
Total current per group, vertical configuration	4 A
Output voltage signal "1" at min. current	L+ (-125 mV)
Output voltage signal "1" at max. current	L+ (-0.8 V)
Output current at signal "1", rated value	0.5 A
Output delay of "0" to "1"	max. 100 μs
Output delay of "1" to "0"	max. 350 μs
Minimum load current	-
Lamp load	5 W
Switching frequency with resistive load	max. 1000 Hz
Switching frequency with inductive load	max. 0.5 Hz
Switching frequency on lamp load	max. 10 Hz
Internal limitation of inductive shut-off voltage	L+ (-52 V)
Short-circuit protection of output	yes, electronic
Trigger level	1 A
Output data size	2 Byte

Technical data counters

Number of counters	-
Counter width	-
Maximum input frequency	-
Maximum count frequency	-
Mode incremental encoder	-
Mode pulse / direction	-
Mode pulse	-
Mode frequency counter	-
Mode period measurement	-

Gate input available	-
Latch input available	-
Reset input available	-
Counter output available	-

Status information, alarms, diagnostics

Status display	yes
Interrupts	no
Process alarm	yes
Diagnostic interrupt	yes
Diagnostic functions	no
Diagnostics information read-out	possible
Supply voltage display	green LED
Group error display	red SF LED
Channel error display	red LED per group

Isolation

Between channels of groups to	8
Between channels and backplane bus	✔
Insulation tested with	DC 500 V

Load and working memory

Load memory, integrated	24 KB
Load memory, maximum	24 KB
Work memory, integrated	16 KB
Work memory, maximal	16 KB
Memory divided in 50% program / 50% data	-
Memory card slot	MMC-Card with max. 512 MB

Hardware configuration

Racks, max.	1
Modules per rack, max.	4
Number of integrated DP master	0
Number of DP master via CP	4
Operable function modules	4
Operable communication modules PtP	4
Operable communication modules LAN	-

Command processing times

Bit instructions, min.	0.25 μs
Word instruction, min.	1.2 μs
Double integer arithmetic, min.	2.6 μs
Floating-point arithmetic, min.	50 μs

Timers/Counters and their retentive characteristics

Number of S7 counters	256
S7 counter remanence	adjustable 0 up to 64
S7 counter remanence adjustable	C0 .. C7
Number of S7 times	256
S7 times remanence	adjustable 0 up to 128

S7 times remanence adjustable	not retentive

Data range and retentive characteristic

Number of flags	8192 Bit
Bit memories retentive characteristic adjustable	adjustable 0 up to 256
Bit memories retentive characteristic preset	MB0 .. MB15
Number of data blocks	2047
Max. data blocks size	16 KB
Number range DBs	1 ... 2047
Max. local data size per execution level	1024 Byte
Max. local data size per block	1024 Byte

Blocks

Number of OBs	14
Maximum OB size	16 KB
Total number DBs, FBs, FCs	-
Number of FBs	1024
Maximum FB size	16 KB
Number range FBs	0 ... 1023
Number of FCs	1024
Maximum FC size	16 KB
Number range FCs	0 ... 1023
Maximum nesting depth per priority class	8
Maximum nesting depth additional within an error OB	4

Time

Real-time clock buffered	✔
Clock buffered period (min.)	30 d
Type of buffering	Vanadium Rechargeable Lithium Battery
Load time for 50% buffering period	20 h
Load time for 100% buffering period	48 h
Accuracy (max. deviation per day)	10 s
Number of operating hours counter	8
Clock synchronization	-
Synchronization via MPI	no
Synchronization via Ethernet (NTP)	no

Address areas (I/O)

Input I/O address area	1024 Bit
Output I/O address area	1024 Bit
Process image adjustable	-
Input process image preset	128 Byte
Output process image preset	128 Byte
Input process image maximal	128 Byte
Output process image maximal	128 Byte
Digital inputs	8192
Digital outputs	8192
Digital inputs central	144
Digital outputs central	144
Integrated digital inputs	16

Integrated digital outputs	16
Analog inputs	512
Analog outputs	512
Analog inputs, central	32
Analog outputs, central	16
Integrated analog inputs	-
Integrated analog outputs	-

Communication functions

PG/OP channel	✔
Global data communication	✔
Number of GD circuits, max.	4
Size of GD packets, max.	22 Byte
S7 basic communication	✔
S7 basic communication, user data per job	76 Byte
S7 communication	✔
S7 communication as server	✔
S7 communication as client	-
S7 communication, user data per job	160 Byte
Number of connections, max.	16

Functionality Sub-D interfaces

Type	MP²I
Type of interface	RS485
Connector	Sub-D, 9-pin, female
Electrically isolated	-
MPI	✔
MP²I (MPI/RS232)	✔
DP master	-
DP slave	-
Point-to-point interface	-

Type	-
Type of interface	-
Connector	-
Electrically isolated	-
MPI	-
MP²I (MPI/RS232)	-
DP master	-
DP slave	-
Point-to-point interface	-

Functionality MPI

Number of connections, max.	16
PG/OP channel	✔
Routing	-
Global data communication	✔

S7 basic communication	✓
S7 communication	✓
S7 communication as server	✓
S7 communication as client	-
Transmission speed, min.	19.2 kbit/s
Transmission speed, max.	187.5 kbit/s

Functionality PROFIBUS slave

PG/OP channel	-
Routing	-
S7 communication	-
S7 communication as server	-
S7 communication as client	-
Direct data exchange (slave-to-slave communication)	-
DPV1	-
Transmission speed, min.	-
Transmission speed, max.	-
Automatic detection of transmission speed	-
Transfer memory inputs, max.	-
Transfer memory outputs, max.	-
Address areas, max.	-
User data per address area, max.	-

Mechanical data

Housing / Protection type

Material	die-cast aluminum
Mounting	via integrated pivoted lever
Protect type front side	IP 65
Protect type back side	IP 20

Dimensions

Front panel	187 mm x 90 mm x 6 mm
Rear panel	154 mm x 77 mm x 55 mm

Installation cut-out

Width	156 mm
Height	78 mm
Minimum	2.5 mm
Maximum front panel thickness	6 mm
Weight	580 g

Environmental conditions

Operating temperature	0 °C to 60 °C
Storage temperature	-20 °C to 70 °C

Certifications

UL508 certification	yes