SIEMENS

Data sheet

6ES7132-6BF01-0BA0

RECEIVERS

SIMATIC ET 200SP, Digital output module, DQ 8x 24V DC/0,5A Standard, Source output (PNP,P-switching) Packing unit: 1 piece, fits to BU-type A0, Colour Code CC02, substitute value output, module diagnostics for: short-circuit to L+ and ground, wire break, supply voltage

General information	
Product type designation	DQ 8x24VDC/0.5A ST
HW functional status	From FS02
Firmware version	V0.0
 FW update possible 	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC02
Product function	
● I&M data	Yes; I&M0 to I&M3
 Isochronous mode 	No
Engineering with	
 STEP 7 TIA Portal configurable/integrated from version 	V14
 STEP 7 configurable/integrated from version 	V5.5 SP3 or higher
 PCS 7 configurable/integrated from version 	V8.1 SP1
 PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
 PROFINET from GSD version/GSD revision 	GSDML V2.3
Operating mode	

• DQ	Yes
 DQ with energy-saving function 	No
• PWM	No
Oversampling	No
• MSO	No
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
Input current	
Current consumption, max.	35 mA; without load
Output voltage	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
 Address space per module, max. 	1 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
 Mechanical coding element 	Yes
 Type of mechanical coding element 	Туре А
Selection of BaseUnit for connection variants	
• 1-wire connection	BU type A0
• 2-wire connection	BU type A0
• 3-wire connection	BU type A0 with AUX terminals or potential distributor module
• 4-wire connection	BU type A0 + Potential distributor module
Digital outputs	
Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	8
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
 Response threshold, typ. 	1 A
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
 with resistive load, max. 	0.5 A
● on lamp load, max.	5 W

• lower limit48 Ω• upper limit12 kΩOutput voltage• for signal ***, min.L + (-0.8 V)Output corrent• for signal *** relate value0.5 A• for signal ****0.5 A• for signal ***0.5 A• for signal ***50 µs; at rated load• ******• for upratingNo• for or particing of two outputs• for redundant control of a loadYesSwitching frequency100 H2• with inductive load, max.100 H2• with inductive load, max.100 H2• or anapi load, max.104 Z• for uprating max.0.5 A• Current per channel, max.0.5 A• Current per module, max.4 A• Current per module, max.100 fr- up to 50 °C, max.4 A• anapi load, max.1000 m• unshielded, max.1000 m<	Load resistance range	
• upper limit12 kΩOutput voltage• for signal "1", min.k + (0.8 V)• for signal "1" rated value0.5 A• for signal "1" rated value0.5 A• for signal "0" residual curent, max.0.5 A• for signal "0" residual curent, max.0.5 A• for signal "0" residual curent, max.50 µs; at rated load• "0" to "1", max.50 µs; at rated load• "1" to "0", max.50 µs; at rated load• "1" to "0", max.50 µs; at rated load• for uparlingNo• for uparlingNo• for redundant control of a loadYesSWitching frequency• with inductive load, max.100 Hz• with inductive load, max.100 Hz• our namp load, max.0.5 A• Current per module, max.0.5 A• Current per module, max.0.5 A• Current per module, max.4 ATotal current of the outputs (per module)• up to 50 "C, max.4 ACable length• up to 50 "C, max.4 ACable length• unshielded, max.1000 m• unshielded, max.600 m• up to so "C, max.Yes• Diagnostic sfunctionYes• Substitute values connectableYes• A• Current per module, max.1000 m• unshielded, max.600 m• unshielded, max.1000 m• unshielded, max.1000 m• unshielded, max.1000 m• unshielded, max.1000 m </td <td></td> <td>48 Ω</td>		48 Ω
Output voitage • for signal *1*, min. L+ (-0.8 V) Output current - • for signal *1* rated value 0.5 A • for signal *1* permissible range, max. 0.5 A • for signal *0* residual current, max. 0.1 mA Output delay with resistive load - • *0* to *1*, max. 50 µs; at rated load • *0* to *1*, max. 100 µs; at rated load • *0* to *1*, max. 100 µs; at rated load • *0* to *0*, max. 100 µs; at rated load • *0* to re dundant control of a load Yes Switching frequency - • with inductive load, max. 100 Hz • with resistive load, max. 10Hz • on lamp load, max. 10Hz • on lamp load, max. 10Hz • on lamp load, max. 0.5 A • Current per channel, max. 0.5 A • Current per module, max. 4A Total current of the outputs (per module) - • up to 50* C, max. 4A Cable length - • up to 50* C, max. 1000 m	● upper limit	12 kΩ
• for signal "1", min. L+ (-0.8 V) Output current 0.5 A • for signal "1" rated value 0.5 A • for signal "1" residual current, max. 0.1 mA Output delay with resistive load 00 transmission of the signal "0" residual current, max. • 0" to "1", max. 50 µs; at rated load • 0" to "1", max. 50 µs; at rated load • 0" to "1", max. 50 µs; at rated load • 0" to "1", max. 50 µs; at rated load • 0" to "1", max. 50 µs; at rated load • 0" to "1", max. 100 µs; at rated load • of redundant control of a load Yes Switching frequency 100 µz • with resistive load, max. 100 Hz • with reductive load, max. 10 Hz • or lamp load, max. 10 Hz • or lamp load, max. 0 5 A • Current per channel, max. 0 5 A • Current per module, max. 4 A Total current of the outputs (per module)		
Output current 0.5 A • for signal "1" rated value 0.5 A • for signal "1" permissible range, max. 0.5 A • for signal "1" permissible range, max. 0.5 A • for signal "1" permissible range, max. 0.5 A • for signal "1" permissible range, max. 50 µs; at rated load • "0" to "1", max. 50 µs; at rated load • "1" to "0", max. 100 µs; at rated load Parallel switching of two outputs Ves • for predundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 100 Hz • on lamp load, max. 10 Hz • on lamp load, max. 10 Hz • current of the outputs 2 Hz • Current per module, max. 0.5 A • Current per module, max. 0.5 A • Current per module, max. 4 A Total current of the outputs (per module) 4A • aurent of the outputs (per module) 600 m • unshielded, max. 1000 m • unshielded, max. 1000 m • unshielded, max. 1000 m		L+ (-0.8 V)
• for signal *1* rated value0.5 A• for signal *1* permissible range, max.0.5 A• for signal *0* residual current, max.0.1 mAOutput delay with resistive load50 µs; at rated load• "0* to *1*, max.50 µs; at rated load• "0* to *1*, max.100 µs; at rated loadParallel switching of two outputs•• for or ortingNo• for redundant control of a loadYesSwitching frequency•• with resistive load, max.100 Hz• with inductive load, max.2 Hz• on lamp load, max.100 Hz• Current per module, max.4 ATotal current of the outputs (per module)•• horizontal installation4 A• up to 60 °C, max.4 ACable length•• up to 60 °C, max.4 ACable length•• up to 50 °C, max.4 ACable length•• shielded, max.1000 m• shielded, max.600 m• up to 50 °C, max.4 ACable length•• up to 100 °C, max.4 ACable length•• shielded, max.1000 m• shielded, max.900 m• up to 50 °C, max.4 ACable length•• up to 50 °C, max.4 A• up to 50 °C, max.4 A• Urenty-bi/diagnostics/status information•• shielded, max.1000 m• oligonostic sharmYes• bingrostic alarmYes <trr>• Diag</trr>	-	
• for signal "1" permissible range, max.0.5 Å• for signal "0" residual current, max.0.1 mÅOutput delay with resistive load50 µs; at rated load• "0" to "1", max.50 µs; at rated load• "1" to "0", max.100 µs; at rated loadParallel switching of two outputs		0.5 A
• for signal "0" residual current, max.0.1 mAOutput delay with resistive load50 µs; at rated load• "0" to "1", max.100 µs; at rated load• Paralel switching of two outputs•• for upratingNo• for redundant control of a loadYes• with resistive load, max.100 Hz• with resistive load, max.100 Hz• with resistive load, max.100 Hz• on lamp load, max.0.5 A• Current of the outputs	-	0.5 A
Output delay with resistive load 50 µs; at rated load • "0" to "1", max. 50 µs; at rated load • "1" to "0", max. 100 µs; at rated load Parallel switching of two outputs 100 µs; at rated load • for redundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 100 Hz • on lamp load, max. 100 Hz • on lamp load, max. 10 Hz • Current per channel, max. 0.5 A • Current per channel, max. 4 A • Current of the outputs (per module) 4A • courrent of the outputs (per module) 4A • or log °C, max. 4 A • or log °C, max. 4 A • or log °C, max. 4 A • clarent of the outputs (per module) 1000 m • up to 50 °C, max. 4 A • clarent per channel, max. 1000 m • up to 50 °C, max. 4 A • clarent per channel, max. 600 m • up to 50 °C, max. Yes • shelded, max. 1000 m • upshielded, max. <t< td=""><td></td><td>0.1 mA</td></t<>		0.1 mA
• "0" to "1", max.50 µs; at rated load• "1" to "0", max.100 µs; at rated loadParallel switching of two outputs• for upratingNo• for redundant control of a loadYesSwitching frequency• with resistive load, max.100 Hz• with inductive load, max.100 Hz• on lamp load, max.10 HzTotal current of the outputs• Current per channel, max.0.5 A• Current per channel, max.0.5 A• Current per channel, max.4 ATotal current of the outputs (per module)horizontal installation up to 50 °C, max.4 ACable length-• shielded, max.1000 m• unshielded, max.600 mInterrupts/diagnostics/slutus informationYesDiagnostics functionYesDiagnostics functionYesDiagnostic alarmYesDiagnostic alarmYesDiagnostic alarmYesDiagnostic alarmYesDiagnostic alarmYesDiagnostic alarmYesNonitoring the supply voltageYes• Winte-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	-	
• "1" to "0", max.100 µs; at rated loadParallel switching of two outputs• for upratingNo• for redundant control of a loadYesSwitching frequency100 Hz• with resistive load, max.100 Hz• on lamp load, max.2 Hz• on lamp load, max.10 Hz• or the outputs0.5 A• Current per channel, max.4 A• Current per module, max.4 A• Total current of the outputs (per module)• horizontal installation4 A• up to 60 °C, max.4 A• vertical installation4 A• up to 50 °C, max.4 A• colle length1000 m• unshielded, max.600 m• bisloded, max.1000 m• on lamp load, max.4 A• otable installationYes• up to 50 °C, max.4 A• bisloded, max.600 m• bisloded, max.1000 m• on shielded, max.1000 m• on shielded, max.Yes• bisloded, max.Yes• bisloded, max.Yes• bisloded, max.Yes• bisloded, max.Yes• bislonostic alarmYes• bislonostic alarmYes		50 μs; at rated load
Parallel switching of two outputs • for uprating No • for redundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 100 Hz • with inductive load, max. 100 Hz • on lamp load, max. 10 Hz • on lamp load, max. 0 Hz • on lamp load, max. 0.5 A • Current of the outputs 4 A Total current of the outputs (per module) - • horizontal installation - up to 60 °C, max. • up to 50 °C, max. 4 A Cable length - • unshielded, max. 600 m Interrupts/diagnostics/status information Yes Diagnostic alarm Yes Oblagnostic alarm Yes Diagnostic alarm Yes Oblagnostic alarm Yes Diagnostic alarm Yes Diagnostic alarm Yes Wire-break Yes; Module-wise Wire-break Yes; Module-wise Short-circuit to M Yes; Module-wise Short-circuit to L+ Yes; Module-wise		100 μs; at rated load
Instrument Yes Switching frequency 100 Hz • with resistive load, max. 100 Hz • with inductive load, max. 2 Hz • on lamp load, max. 10 Hz Total current of the outputs 0.5 A • Current per channel, max. 4 A Total current of the outputs (per module) 4 A Total current of the outputs (per module) 4 A Incident of 0 °C, max. 4 A Total on tail installation - up to 60 °C, max. - up to 50 °C, max. 4 A Cable length - up to 50 °C, max. • shielded, max. 1000 m on shielded, max. 600 m Interrupts/diagnostics/status information Yes Substitute values connectable Yes Alarms Yes Olagnostic alarm Yes Diagnostic alarm Yes Monitoring the supply voltage Yes; Module-wise • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise		
Switching frequency Intervention of a rote of	● for uprating	No
Switching frequency • with resistive load, max. 100 Hz • with inductive load, max. 2 Hz • on lamp load, max. 100 Hz • on lamp load, max. 10 Hz • Total current of the outputs 0.5 A • Current per channel, max. 4 A • Current of the outputs (per module) 4 A Total current of the outputs (per module) 4 A • on lamp load, max. 4 A Total current of the outputs (per module) 4 A • on lamp load, max. 4 A • oup to 60 °C, max. 4 A vertical installation - up to 50 °C, max. - up to 50 °C, max. 4 A Cable length - up to 50 °C, max. • unshielded, max. 1000 m • unshielded, max. 600 m Interrupts/diagnostics/status information Yees Diagnostic substitute values connectable Yees Alarms Yees • Diagnostic alarm Yees • Monitoring the supply voltage Yees; Module-wise • Wire-break Yees; Module-wise		Yes
• with resistive load, max.100 Hz• with inductive load, max.2 Hz• on lamp load, max.10 Hz• Total current of the outputs0.5 A• Current per channel, max.4 A• Current per module, max.4 A• Total current of the outputs (per module)•horizontal installation up to 60 °C, max.4 A• vertical installation4 A• current per b0 °C, max.4 A• current of the outputs (per module)•• up to 50 °C, max.4 A• current per b0 °C, max.600 m• unshielded, max.1000 m• unshielded, max.600 m• Diagnostics functionYesSubstitute values connectableYes• Diagnostic alarmYes• Diagnostic alarmYes• Monitoring the supply voltageYes• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise		
International or day max.10 HzTotal current of the outputs0.5 ACurrent per channel, max.4 ATotal current of the outputs (per module)4 ATotal current of the outputs (per module)		100 Hz
Total current of the outputs 0.5 A • Current per channel, max. 4 A Total current of the outputs (per module) 4 A horizontal installation - up to 60 °C, max. - up to 60 °C, max. 4 A vertical installation 4 A - up to 50 °C, max. 4 A Cable length 4 A • shielded, max. 1 000 m • unshielded, max. 600 m Interrupts/diagnostics/status information Vers Diagnostics function Yes Oliganostic alarm Yes Oliganostic alarm Yes • Monitoring the supply voltage Yes; Module-wise • Wire-break Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	 with inductive load, max. 	2 Hz
• Current per channel, max.0.5 Å• Current per module, max.4 ÅTotal current of the outputs (per module)horizontal installation- up to 60 °C, max.4 Åvertical installation- up to 50 °C, max.4 ÅCable length• shielded, max.1 000 m• unshielded, max.600 mInterrupts/diagnostics/status informationDiagnostics functionYesSubstitute values connectableYesAlarmsVers• Diagnostic alarmYes• Monitoring the supply voltageYes• Monitoring the supply voltageYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	 on lamp load, max. 	10 Hz
• Current per module, max. 4 A Total current of the outputs (per module) • horizontal installation - up to 60 °C, max. 4 A vertical installation - up to 50 °C, max. 4 A Cable length 4 A Cable length 600 m • unshielded, max. 600 m Diagnostics /status information Yes Substitute values connectable Yes • Diagnostic alarm Yes • Monitoring the supply voltage Yes • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	Total current of the outputs	
Total current of the outputs (per module) horizontal installation - up to 60 °C, max. 4 Å vertical installation - up to 50 °C, max. 4 Å Cable length • shielded, max. 600 m • unshielded, max. 600 m Interrupts/diagnostics/status information Diagnostics function Yes Alarms Yes • Diagnostic alarm Yes • Monitoring the supply voltage Yes; Module-wise • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	• Current per channel, max.	0.5 A
horizontal installation 4 A up to 60 °C, max. 4 A vertical installation 4 A up to 50 °C, max. 4 A Cable length 600 m •unshielded, max. 600 m •unshielded, max. 600 m Diagnostics/status information Yes Substitute values connectable Yes Alarms Yes •	 Current per module, max. 	4 A
up to 60 °C, max.4 Avertical installation4 A up to 50 °C, max.4 ACable length1000 m• shielded, max.600 m• unshielded, max.600 mInterrupts/diagnostics/status informationYesDiagnostics functionYesObignostic alarmYes• Diagnostic alarmYes• Monitoring the supply voltageYes• Monitoring the supply voltageYes• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	Total current of the outputs (per module)	
vertical installation 4 A - up to 50 °C, max. 4 A Cable length 1000 m • shielded, max. 600 m • unshielded, max. 600 m Interrupts/diagnostics/status information Yes Diagnostics function Yes Substitute values connectable Yes Alarms Yes • Diagnostic alarm Yes Diagnoses Yes • Monitoring the supply voltage Yes; Module-wise • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	horizontal installation	
up to 50 °C, max.4 ACable length• shielded, max.1 000 m• unshielded, max.600 mInterrupts/diagnostics/status informationDiagnostics functionYesSubstitute values connectableYesAlarmsYesDiagnostic alarmYesDiagnostic alarmYes• Diagnostic alarmYes• Monitoring the supply voltageYes; Module-wise• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	— up to 60 °C, max.	4 A
Cable length 1 000 m • shielded, max. 600 m • unshielded, max. 600 m Interrupts/diagnostics/status information Diagnostics function Yes Substitute values connectable Yes Alarms Yes • Diagnostic alarm Yes Diagnoses Yes • Monitoring the supply voltage Yes; Module-wise • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	vertical installation	
• shielded, max.1 000 m• unshielded, max.600 mInterrupts/diagnostics/status informationYesDiagnostics functionYesSubstitute values connectableYesAlarmsYes• Diagnostic alarmYesDiagnosesYes• Monitoring the supply voltageYes• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	— up to 50 °C, max.	4 A
• unshielded, max.600 mInterrupts/diagnostics/status informationYesDiagnostics functionYesSubstitute values connectableYesAlarmsYes• Diagnostic alarmYesDiagnosesYes• Monitoring the supply voltageYes; Module-wise• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	Cable length	
Interrupts/diagnostics/status information Diagnostics function Yes Substitute values connectable Yes Alarms Yes • Diagnostic alarm Yes Diagnoses Yes • Monitoring the supply voltage Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	• shielded, max.	1 000 m
Diagnostics function Yes Substitute values connectable Yes Alarms Yes • Diagnostic alarm Yes Diagnoses Yes • Monitoring the supply voltage Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	• unshielded, max.	600 m
Diagnostics function Yes Substitute values connectable Yes Alarms Yes • Diagnostic alarm Yes Diagnoses Yes • Monitoring the supply voltage Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	Interrupts/diagnostics/status information	
Alarms• Diagnostic alarmYesDiagnoses• Monitoring the supply voltageYes• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise		Yes
• Diagnostic alarmYesDiagnosesYes• Monitoring the supply voltageYes• Wire-breakYes; Module-wise• Short-circuit to MYes; Module-wise• Short-circuit to L+Yes; Module-wise	Substitute values connectable	Yes
Diagnoses • Monitoring the supply voltage Yes • Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	Alarms	
 Monitoring the supply voltage Wire-break Short-circuit to M Short-circuit to L+ Yes; Module-wise 	Diagnostic alarm	Yes
• Wire-break Yes; Module-wise • Short-circuit to M Yes; Module-wise • Short-circuit to L+ Yes; Module-wise	Diagnoses	
 Short-circuit to M Short-circuit to L+ Yes; Module-wise Yes; Module-wise 	 Monitoring the supply voltage 	Yes
Short-circuit to L+ Yes; Module-wise	• Wire-break	Yes; Module-wise
	Short-circuit to M	Yes; Module-wise
• Group error Yes	 Short-circuit to L+ 	Yes; Module-wise
	Group error	Yes

Diagnostics indication LED	
Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
	-
Channel status display	Yes; green LED
for channel diagnostics	No
 for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
 between the channels 	No
 between the channels and backplane bus 	Yes
 between the channels and the power supply of 	No
the electronics	
Isolation	
Isolation tested with	707 V DC (type test)
Standarde approvale cortificator	
Standards, approvals, certificates Suitable for safety functions	No
Suitable for safety-related tripping of standard	Yes; From FS01
modules	
Highest safety class achievable in safety mode	
 Performance level according to ISO 13849-1 	PL d
• SIL acc. to IEC 61508	SIL 2
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; < 0 °C as of FS02
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; < 0 °C as of FS02
• vertical installation, max.	50 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	30 g
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