5.1 Supplementary Technical Data for 6DS1731–8RR

General technical data	
Dimensions	Double Eurocard
Weight	450 g
Power supply	
Supply voltages L+, PM (measured on backplane connector X2) 5 V from I/O bus (on backplane connector X1)	 To IEC 38: DC 24 V Permissible range including ripple: 19 to 33 V Permissible ripple: ≤ 15% of mean value of voltage. DC 5 V (4.75 to 5.25 V)
Brief voltage dip	Max. 15 ms at L+ = 19 V, recovery time 1 s The current at the binary outputs is interrupted for the duration of the fault. The logic statuses of the module are retained → self-recovery.
Current consumption (typical values for configuring with L+ = 26 V) L+ PM 5V from I/O bus	 260 mA (no-load current) + total of output currents (analog: voltage max. 1 mA/channel, current max. 20 mA/channel, binary: max. 100 mA/channel) 0 mA if L+ present / 15 mA on failure of L+ 0 mA if L+ present / 40 mA on failure of L+
Power loss (typical values for configuring with L+ = 26 V)	6.3 Watt (no-load power loss) + (U–1 V) x I + 0.7 V x I per connected analog output + 2.5 V x I per connected binary output + 0.02 Watt per binary input at High (I = output current in A, U = supply voltage L+)
Configuration values for – typical use – 4 current outputs, load 50 Ω, triggering 50 % – binary outputs not connected	Consumption: 280 mA Power loss: 7,3 W
Safety	
Instrument standard	DIN EN 60950 ^ IEC950 ^ VDE0805
Fire resistance	UL 94 or IEC 707 Class V–1
Protection class	Class III (to DIN EN 60950)
Power supply	Only a voltage with safe electrical isolation from the power supply may be used for the DC 24 V supply. The safe isolation can be implemented according to the requirements in e.g. VDE0100 Part 410 ^ HD384–4–41 ^ IEC364–4–41 (as functional low-voltage with safe isolation PELV) or in VDE0805 ^ EN60950 ^ IEC950 (as safety low-voltage SELV) or in VDE 0106 Part 101.
Module fuse	T 1 A (see spare parts)
Noise	Omitted
Reliability	
MTBF value to LAMBIK II according to SN 29500	14.9 years at module ambient temperature of 40 °C 7.9 years at module ambient temperature of 55 °C

Electromagnetic compatibility (EMC)

The listed values apply to modules operated in the system cabinet when using shielded process cables (shields connected to rails provided in cabinet) and with consideration of the information in the Manual "Guidelines for planning, installation and operation", Order No. C79000-M8076-C417.

		Max. deviation of analog values (% of end value)[1]
Emitted interference via power supply	Limit class A to VDE 0875, T11 ^ EN 55011	
Emitted interference (radiated field)	Limit class A to EN 55011	
Immunity to RF radiation (e.g. walkie-talkies, transmitters)	10 V/m (100 kHz to 80 MHz to IEC 801-6 / ENV 50141, RF radiation of housings and cables)	< 1 % (inputs) < 8 % (outputs)
	10 V/m (80 MHz to 1 GHz to ENV 50140 / ENV 50204)	
Conducted interferences on DC 24 V supply cables of cabinet	± 2 kV (to IEC 801-4 / ENV 61000-4-4; burst) ± 1 kV (to IEC 801-5 / IEC 1000-4-5; µs-pulse/cable to cable) ± 2 kV (to IEC 801-5 / IEC 1000-4-5; µs-pulse/cable to earth)	< 0.5 % < 0.5 % (inputs) < 8 % (outputs) < 0.2 %
Noise immunity on signal cable	± 2 kV (to IEC 801-4 / EN 61000-4-4; burst) ± 2 kV (to IEC 801-5 / IEC 1000-4-5; µs-pulse/ screened process cable to earth)	< 1.5 % < 4 %
Dynamic surge immunity	± 1 kV (to IEC 801-5 / IEC 1000-4-5; 1.2/50 µs-pulse, source impedance 42 Ω between the connections of the process interface on backplane connector X2 and M/earth) ± 0.5 kV between different connections of the process interface on backplane connector X2	Omitted
Immunity to discharging of static electricity on housing and constructional parts which can be touched with cabinet closed	± 6 kV contact discharge (to IEC 801-2 / EN 61000-4-2) ± 8 kV air discharge (to IEC 801-2 / EN 61000-4-2)	< 0.5 % < 0.5 %

Climatic conditions

Temperature	Tested to DIN IEC 68-2-1, DIN IEC 68-2-2
Operation	+0 °C to +55 °C (supply air to subrack), maximum temperature gradient 10 °C/hour
Storage/transport Packed for shipping	-40 °C to +70 °C, maximum temperature gradient 5 °C/hour (higher temperature gradients present the danger of condensation. Condensation is not permissible). Following long-term storage, the modules must be started up for one hour at regular intervals in order to form the electrolyte capacitors: - At storage temperature up to 40 °C: every 5 years within the first 10 years, then every 3 years - At storage temperature above 40 °C: every 2 years

Relative humidity Operation	Ambient conditions to DIN 40040 Class F (< 75% as annual average, < 95% on 30 days in year) Condensation is not permissible. Tested to DIN IEC 68-2-3 5% to 95% at 25 °C
Storage/transport Packed for shipping	Ambient conditions to DIN 40040 Class G (< 65% as annual average, < 85% on 60 days in year) Condensation is not permissible. Tested to DIN IEC 68-2-3 5% to 85% at 27 °C
Atmospheric pressure	Storage: 1140...660 hPa (-1000 to +1000 m) Operation: 1140...900 hPa (-1000 to +1000 m) The cooling is reduced at greater altitudes so that the upper operating temperature must be reduced. (Approximate value: 10 °K/1000 m altitude above 1000 m above sea level)
Mechanical conditions	
Vibration Operation in subrack	Tested to DIN IEC 68-2-6 10 to 58 Hz: amplitude 0.15 mm 58 to 500 Hz: acceleration 2 g (20 m/s^2) Excitation signal: sliding sine-wave Rate of change of frequency: 1 octave/min 5 cycles per axis
Packed for shipping	Tested to DIN IEC 68-2-6 5 to 8 Hz: amplitude 3.5 mm 8 to 500 Hz: acceleration 1 g (10m/s^2) Excitation signal: sliding sine-wave Rate of change of frequency: 1 octave/min 5 cycles per axis
Shock Operation in subrack	Tested to DIN IEC 68-2-29 Half-sine: 10 g (100 m/s^2) for 16 ms 1000 shocks per direction (total of 6000 shocks)
Dust dangerous to correct functioning Conductive and corrosive components must be kept away from the devices. Other types of dust and sand are covered by the application conditions according to DIN IEC 721 Part 3 Class 3S1.	
Special features	
Quality assurance	To ISO 9001
Spare parts	
Mini-jump configuring jumper	W79070-G2604-N2
Module extractor handle	C79451-A3117-D33 (20 off)
Fuse cap for front panel	C74451-A1400-A105 (supplied only complete with fuse holder)
Main module fuse T1A/250V	W79054-L1011-T100

1) The listed deviations are maximum values which only occur to this extent when exposed to the listed interference levels. Correspondingly lower deviations can be expected with lower interference levels.
The listed deviations only occur for the duration of exposure to the interference.

5.2 Supplementary Technical Data for 6DS1703-8RR

General technical data	
Dimensions	Double Eurocard
Weight	200 g
Number of analog inputs	14
Electrical isolation	Electrical isolation between input stages and system potential
Permissible common-mode voltage	≤ 60 V
Analog inputs The rated output ranges must be defined specific to the channels by means of the user configuration in the 6DS1731-8... The address range (channels 5-18 or 19-32) can be set using plug-in jumpers.	
Connectable transmitters	- Thermocouple - Resistance thermometer
Measuring-point switchover	Via opto relay
Accuracy	See description 6DS1731-8..
Temperature coefficient	See description 6DS1731-8..
Power supply	
Supply voltages	The power supply is applied through the 6DS1731-8.. (via ribbon cable on front panel) Permissible tolerances: see description 6DS1731-8..
Brief voltage dip	See description 6DS1731-8..
Current consumption (typical values for configuring with L+ = 26 V)	The input current (L+) of the 6DS1731-8.. is increased by 25 mA when the 6DS1731-8.. is connected
Power loss (typical values for configuring with L+ = 26 V)	0.7 Watt
Safety	
Instrument standard	DIN EN 60950 ^ IEC950 ^ VDE0805
Fire resistance	UL 94 or IEC 707 Class V-1
Protection class	Class III (to DIN EN 60950)
Power supply	See description 6DS1731-8..
Module fuse	Omitted, fused via 6DS1731-8..
Noise	Omitted
Reliability	
MTBF value to LAMBIK II according to SN 29500	27.2 years at module ambient temperature of 40 °C 13.0 years at module ambient temperature of 55 °C

Electromagnetic compatibility (EMC)

The listed values apply to modules operated in the system cabinet when using shielded process cables (shields connected to rails provided in cabinet) and with consideration of the information in the Manual "Guidelines for planning, installation and operation", Order No. C79000-M8076-C417.

See description 6DS1731-8..

Dynamic surge immunity	± 1 kV (to IEC 801-5 / IEC 1000-4-5; 1.2/50 µs-pulse, source impedance 42 Ω between the connections of the process interface on backplane connector X2 and M/earth) ± 0.5 kV between different connections of the process interface on backplane connector X2

Climatic conditions

See description 6DS1731-8..

Mechanical conditions

Vibration Operation in subrack	Tested to DIN IEC 68-2-6 10 to 58 Hz: amplitude 0.15 mm 58 to 500 Hz: acceleration 2 g (20 m/s^2) Excitation signal: sliding sine-wave Rate of change of frequency: 1 octave/min 5 cycles per axis
Packed for shipping	Tested to DIN IEC 68-2-6 5 to 8 Hz: amplitude 3.5 mm 8 to 500 Hz: acceleration 1 g (10m/s^2) Excitation signal: sliding sine-wave Rate of change of frequency: 1 octave/min 5 cycles per axis
Shock Operation in subrack	Tested to DIN IEC 68-2-29 Half-sine: 10 g (100 m/s^2) for 16 ms 1000 shocks per direction (total of 6000 shocks)

Dust dangerous to correct functioning

Conductive and corrosive components must be kept away from the devices. Other types of dust and sand are covered by the application conditions according to DIN IEC 721 Part 3 Class 3S1.

Special features

Quality assurance	To ISO 9001

Spare parts

Mini-jump configuring jumper	W79070-G2604-N2
Module extractor handle	C79451-A3117-D33 (20 off)