Positioner and option modules	***Temperature class T4***	***Temperature class T6***
Option modules		
• Non-Contacting Sensor (NCS) 6DR4004-6N	-40 °C ≤Ta ≤ +90 °C	-40 °C ≤Ta ≤ +70 °C
• Position Transmitter (Potentiometer) 6DR4004-1ES	-40 °C ≤Ta ≤ +90 °C	-40 °C ≤Ta ≤ +60 °C
• Position Transmitter (NCS) 6DR4004-2ES	-40 °C ≤Ta ≤ +90 °C	-40 °C ≤Ta ≤ +50 °C
• Position Transmitter (NCS, ILS) 6DR4004-3ES		
• Position Transmitter (NCS, MLS) 6DR4004-4ES		

12.6 Electrical data

	Basic electronics without explosion protection	**Basic electronics with explosion protection Ex "db"**	**Basic electronics with explosion protection Ex "ia", "db ia"**	**Basic electronics with explosion protection Ex "ic", "ec", "tb"**
Current input I_W				
• Rated signal range		4 ... 20 mA		
• Test voltage		840 V DC, 1 s		
• Digital input DI1 (terminals 9/10; galvanically connected to basic device)		Suitable only for floating contact; max. contact load < 5 µA with 3 V		
2-wire connection 6DR50.. and 6DR53.. 4 ... 20 mA 6DR51.. and 6DR52.. HART				
Current to maintain the auxiliary power		≥ 3.6 mA		
Required load voltage U_B (corresponds to Ω at 20 mA)				
• 4 to 20 mA 6DR50..				
Typical	6.36 V (= 318 Ω)	6.36 V (= 318 Ω)	7.8 V (= 390 Ω)	7.8 V (= 390 Ω)
Max.	6.48 V (= 324 Ω)	6.48 V (= 324 Ω)	8.3 V (= 415 Ω)	8.3 V (= 415 Ω)
• 4 to 20 mA 6DR53..				
Typical	7.9 V (= 395 Ω)	-	-	-
Max.	8.4 V (= 420 Ω)	-	-	-
• HART 6DR51..				
Typical	6.6 V (= 330 Ω)	6.6 V (= 330 Ω)	-	-
Max.	6.72 V (= 336 Ω)	6.72 V (= 336 Ω)	-	-
HART 6DR52..				

	Basic electronics without explosion protection	**Basic electronics with explosion protection Ex "db"**	**Basic electronics with explosion protection Ex "ia", "db ia"**	**Basic electronics with explosion protection Ex "ic", "ec", "tb"**
Typical	-	8.4 V (= 420 Ω)	8.4 V (= 420 Ω)	8.4 V (= 420 Ω)
Max.	-	8.8 V (= 440 Ω)	8.8 V (= 440 Ω)	8.8 V (= 440 Ω)
• Static destruction limit	± 40 mA	± 40 mA	-	-
Effective inner capacitance C_i	-	-		
• 4 to 20 mA	-	-	11 nF	"ic": 11 nF
• HART	-	-	11 nF	"ic": 11 nF
Effective inner inductance L_i	-	-		
• 4 to 20 mA	-	-	209 µH	"ic": 209 µH
• HART	-	-	312 µH	"ic": 312 µH
For connecting to circuits with the following peak values	-	-	$U_i \leq 30$ V $I_i \leq 100$ mA $P_i \leq 1$ W	"ic": $U_i \leq 30$ V $I_i \leq 100$ mA "ec"/"tb": $U_n \leq 30$ V $I_n \leq 100$ mA

3-/4-wire connection
6DR52.. HART, explosion proof
6DR53.. 4 ... 20 mA, non-explosion-proof

Load voltage at 20 mA	≤ 0.2 V (= 10 Ω)	≤ 0.2 V (= 10 Ω)	≤ 1 V (= 50 Ω)	≤ 1 V (= 50 Ω)
Auxiliary power U_{Aux}	18 ... 35 V DC	18 ... 35 V DC	18 ... 30 V DC	18 ... 30 V DC
• Current consumption I_{Aux}		(U_{Aux} - 7.5 V) / 2.4 kΩ [mA]		
For connecting to circuits with the following peak values	-	-	$U_i \leq 30$ V $I_i \leq 100$ mA $P_i \leq 1$ W	"ic": $U_i \leq 30$ V $I_i \leq 100$ mA "ec"/"tb": $U_n \leq 30$ V $I_n \leq 100$ mA
Effective inner capacitance C_i	-	-	22 nF	22 nF
Effective inner inductance L_i	-	-	0.12 mH	0.12 mH
Galvanic isolation	Between U_{Aux} and I_W	Between U_{Aux} and I_W	Between U_{Aux} and I_W (2 intrinsically safe circuits)	Between U_{Aux} and I_W