



Proportionalmagnete Proportional solenoids

Proportionalmagnete für Hydraulikventile – in Standard- und explosionsgeschützter Ausführung.

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Proportionalmagnete sind in der Elektrohydraulik die taktgebende Instanz – vergleichbar mit einem Dirigenten. Einerseits bestimmen sie die Dynamik, andererseits lautet die Anforderung, selbst hoher Dynamik unbeschadet standzuhalten. Deswegen müssen Proportionalmagnete robust, langlebig und zuverlässig sein.

Aufgrund langjähriger weltweiter Erfahrung im Bereich explosionsgeschützter Elektromagnete vertrauen unsere Kunden auf den besonderen „Schienle-Qualitätsstandard“ und integrieren unsere Hydraulikmagnet-Lösungen häufig in betont anspruchsvolle Anwendungen.

Durch ein breites Spektrum an standardisierten Antriebslösungen bieten wir für jede erdenkliche Anforderung das passende Produkt.

Unser Sortiment im Bereich Hydraulische Anwendungen:

- + Schaltmagnete
- + Proportionalmagnete
- + Betätigungssysteme
- + International zertifizierte Ex-Schalt- und Proportionalmagnete sowie Sensoren

Spezifische Lösungen führen wir den individuellen Wünschen und Anforderungen des Kunden entsprechend aus.

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Proportional solenoids for hydraulic valves – in standard and explosion-proof designs.

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In the field of electrohydraulics, proportional solenoids set the pace – comparable to the conductor of an orchestra. On the one hand, they determine the dynamics, but they must also be able to resist even the highest dynamics and remain undamaged. Proportional solenoids therefore need to be robust, long-lasting and reliable.

On the basis of our many years' experience in the field of explosion-proof electromagnets, our customers rely on that particular 'Schienle quality standard', and integrate our hydraulic solenoid solutions into what are often the most decidedly demanding applications.

With a wide range of standardised drive solutions, we have the appropriate product for any conceivable requirement.

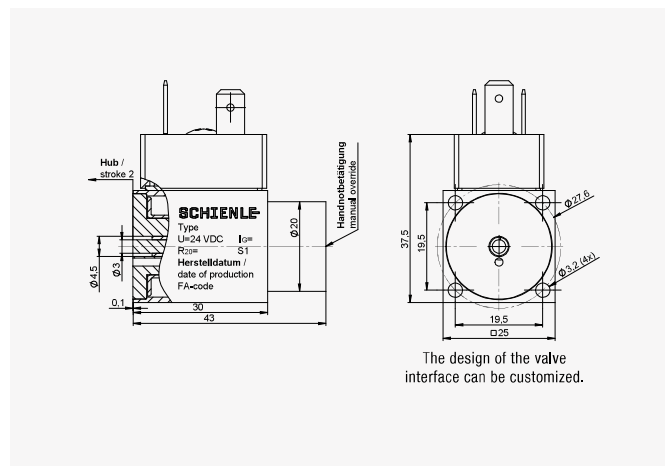
Our range in the area of hydraulic applications:

- + Switching solenoids
- + Proportional solenoids
- + Actuator systems
- + Internationally certified Ex switching and proportional solenoids, plus sensors

We produce custom solutions according to clients' individual desires and requirements.

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Proportional solenoid PDA 025x 0yy



Proportional solenoid for hydraulic valves – Size 25

Square electromagnet in proven sturdy, long-lasting design. Enclosed by solid square housing, which is affixed to the valve with four screws, this pressure-resistant armature tube withstands operating pressure of 320 bar.

The armature's bearings are of high quality with low friction, and in the event of a fault it can be operated via the integrated manual override.

- Electrical design: Construction type and inspection in accordance with VDE 0580
- Electrical connection: DIN EN 175301-803
- Protection class in accordance with DIN VDE 0470, EN 60529

Type code:

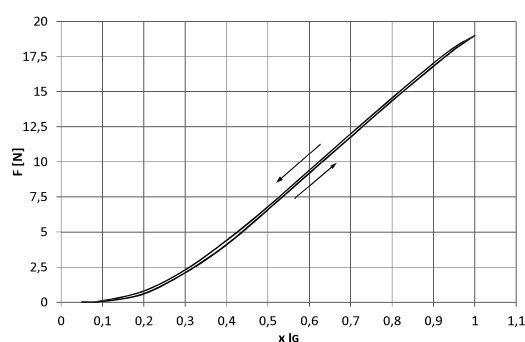
x = Type of connector
A-DIN Connector, B-AMP Connector

PDA 025x 0yy

0yy = Voltage
012 = 12 V, 024 = 24 V

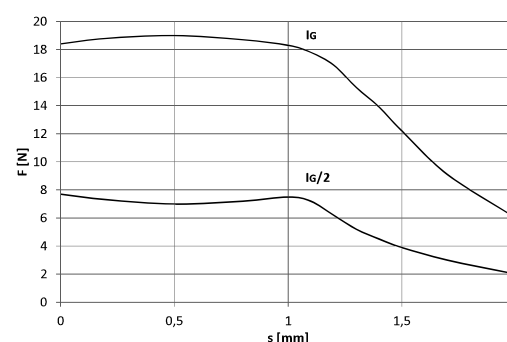
Technical data	24 V	12 V
duty cycle [%]	100	100
max. ambient temperature [C°]	50	50
static working pressure [bar]	320	320
total stroke [mm]	2	2
working stroke [mm]	1	1
force hysteresis [%]	~5	~5
current hysteresis [%]	~5	~5
nominal resistance [Ω]	26	6.5
nominal current [A]	0.44	0.92
limit current [A]	0.44	0.92
nominal output [W]	5	5.5
limit output [W]	7.8	7.9
armature weight [kg]	0.01	0.01
total weight [kg]	0.12	0.12
ingress protection rating	IP65	IP65
inductance [mH]	45	15
thermal class (coil)	F	F

Force vs. current diagram

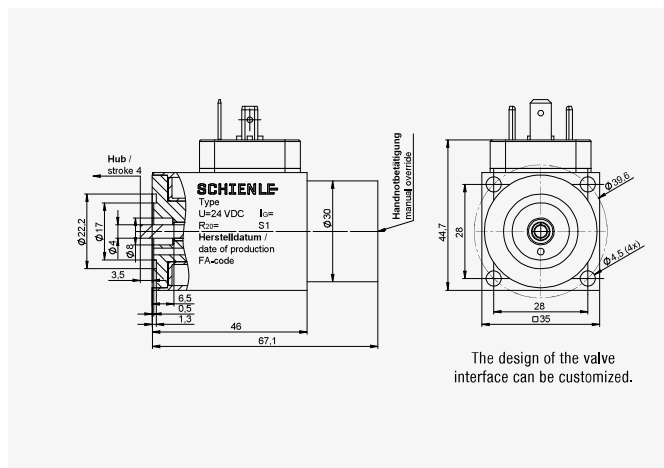


The values can deviate
+/- 5 %

Force vs. stroke diagram



Proportional solenoid PDA 035x 0yy



Proportional solenoid for hydraulic valves – Size 35

Square electromagnet in proven sturdy, long-lasting design. Enclosed by solid square housing, which is affixed to the valve with four screws, this pressure-resistant armature tube withstands operating pressure of 320 bar.

The armature's bearings are of high quality with low friction, and in the event of a fault it can be operated via the integrated manual override.

- Electrical design: Construction type and inspection in accordance with VDE 0580
- Electrical connection: DIN EN 175301-803
- Protection class in accordance with DIN VDE 0470, EN 60529

Type code:

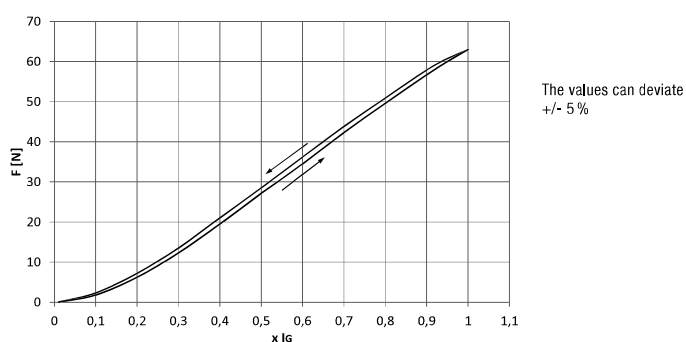
x = Type of connector
 A-DIN Connector, B-AMP Connector

PDA 035x 0yy

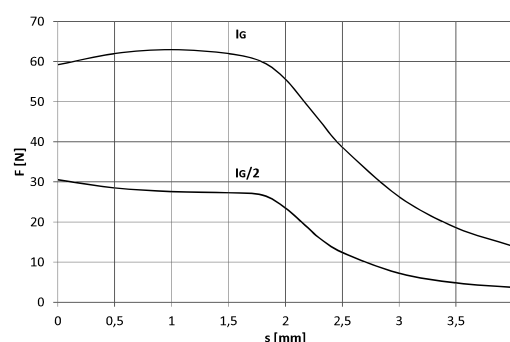
0yy = Voltage
 012 = 12 V, 024 = 24 V

Technical data	24 V	12 V
duty cycle [%]	100	100
max. ambient temperature [C°]	50	50
static working pressure [bar]	320	320
total stroke [mm]	4	4
working stroke [mm]	2	2
force hysteresis [%]	~5.5	~5.5
current hysteresis [%]	~5	~5
nominal resistance [Ω]	24	7
nominal current [A]	0.7	1.3
limit current [A]	0.7	1.3
nominal output [W]	11.8	11.8
limit output [W]	17.4	17.7
armature weight [kg]	0.037	0.037
total weight [kg]	0.47	0.47
ingress protection rating	IP65	IP65
inductance [mH]	72	21
thermal class (coil)	F	F

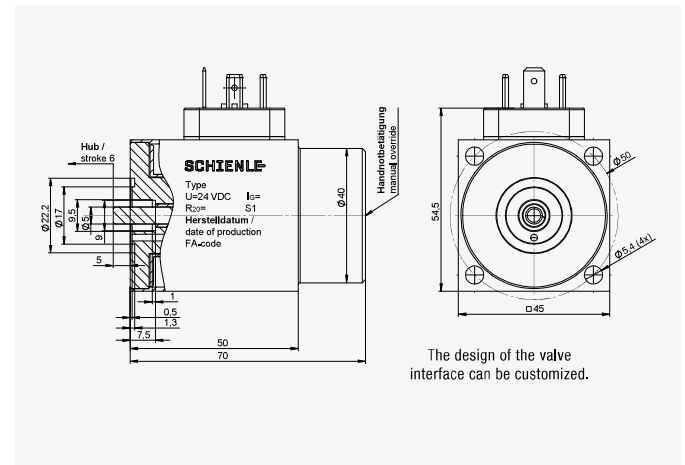
Force vs. current diagram



Force vs. stroke diagram



Proportional solenoid PDA 045x 0yy



Proportional solenoid for hydraulic valves – Size 45

Square electromagnet in proven sturdy, long-lasting design. Enclosed by solid square housing, which is affixed to the valve with four screws, this pressure-resistant armature tube withstands operating pressure of 320 bar.

The armature's bearings are of high quality with low friction, and in the event of a fault it can be operated via the integrated manual override.

- Electrical design: Construction type and inspection in accordance with VDE 0580
- Electrical connection: DIN EN 175301-803
- Protection class in accordance with DIN VDE 0470, EN 60529

Type code:

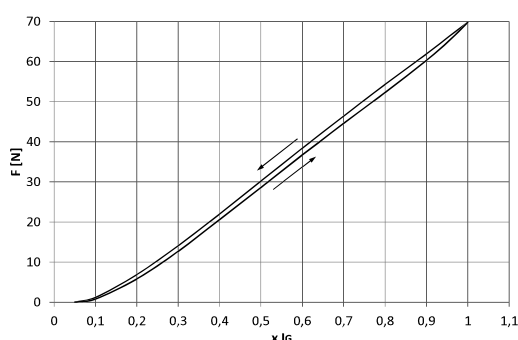
x = Type of connector
A-DIN Connector, B-AMP Connector

PDA 045x 0yy

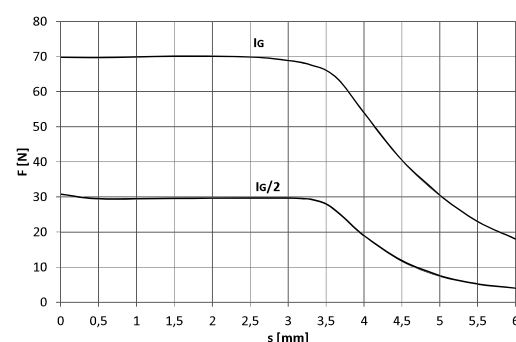
0yy = Voltage
012 = 12 V, 024 = 24 V

Technical data	24 V	12 V
duty cycle [%]	100	100
max. ambient temperature [C°]	50	50
static working pressure [bar]	320	320
total stroke [mm]	6	6
working stroke [mm]	3	3
force hysteresis [%]	~5.5	~5.5
current hysteresis [%]	~5	~5
nominal resistance [Ω]	21.7	4.6
nominal current [A]	0.81	1.8
limit current [A]	0.81	1.8
nominal output [W]	14.2	14.9
limit output [W]	20.4	21.6
armature weight [kg]	0.064	0.064
total weight [kg]	0.83	0.83
ingress protection rating	IP65	IP65
inductance [mH]	87	20
thermal class (coil)	F	F

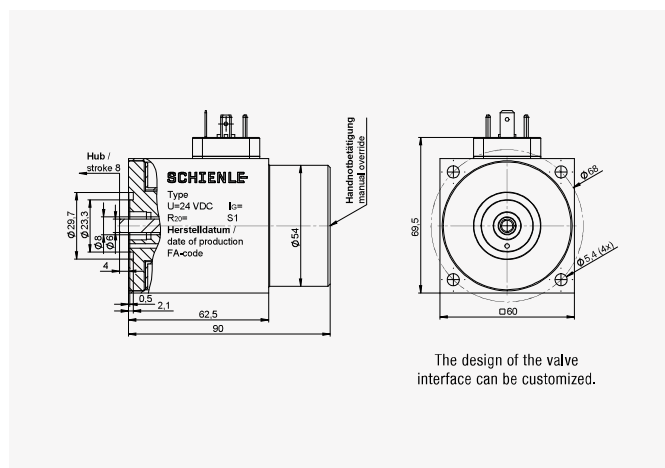
Force vs. current diagram



Force vs. stroke diagram



Proportional solenoid PDA 060x 0yy



Proportional solenoid for hydraulic valves – Size 60

Square electromagnet in proven sturdy, long-lasting design. Enclosed by solid square housing, which is affixed to the valve with four screws, this pressure-resistant armature tube withstands operating pressure of 320 bar.

The armature's bearings are of high quality with low friction, and in the event of a fault it can be operated via the integrated manual override.

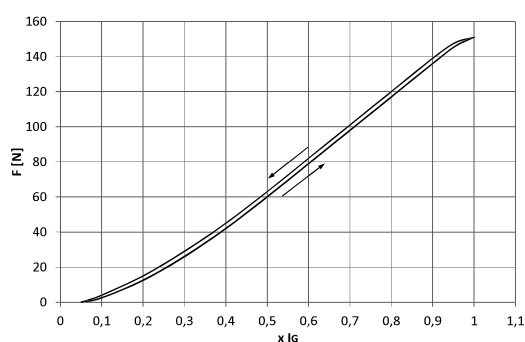
- Electrical design: Construction type and inspection in accordance with VDE 0580
- Electrical connection: DIN EN 175301-803
- Protection class in accordance with DIN VDE 0470, EN 60529

Type code:

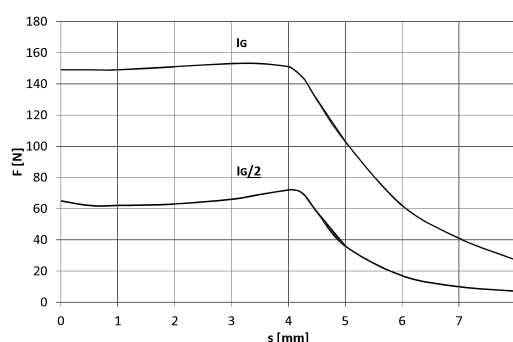
x = Type of connector
 A-DIN Connector, B-AMP Connector
PDA 060x 0yy
 0yy = Voltage
 012 = 12 V, 024 = 24 V

Technical data	24 V	12 V
duty cycle [%]	100	100
max. ambient temperature [C°]	50	50
static working pressure [bar]	320	320
total stroke [mm]	8	8
working stroke [mm]	4	4
force hysteresis [%]	~6	~6
current hysteresis [%]	~5.5	~5.5
nominal resistance [Ω]	16.5	4.1
nominal current [A]	1.15	2.3
limit current [A]	1.15	2.3
nominal output [W]	22	22
limit output [W]	29.5	30.1
armature weight [kg]	0.12	0.12
total weight [kg]	1.75	1.75
ingress protection rating	IP65	IP65
inductance [mH]	97	24
thermal class (coil)	F	F

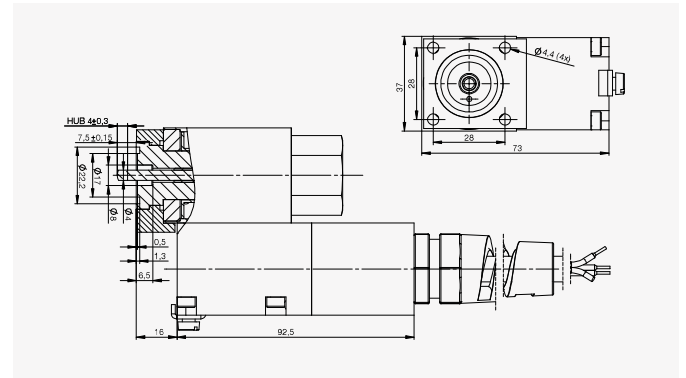
Force vs. current diagram



Force vs. stroke diagram



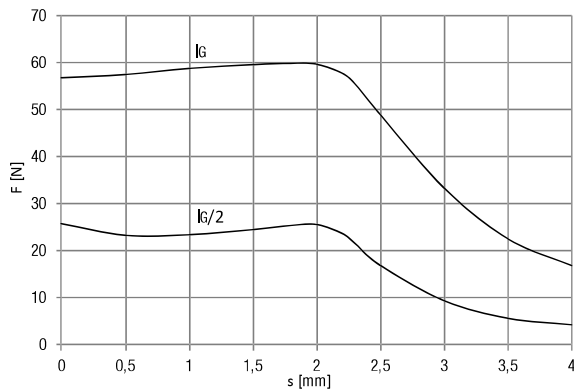
Proportional solenoid Ex 14



Proportional solenoid for hydraulic valves – Size 37

- Square electromagnet in explosion-proof design.
- Thanks to the protection class-compliant flame proof “d” and “XP” enclosure, this product can be used worldwide – USA, RUS, IECEx, ATEX approval for Division 1 and Zone 1, 21 in gas and dust atmospheres.
- Ideal for NG4 and NG6 valves.
- The solenoid tube and valve interface can be customised to a large extent.

Force vs. stroke diagram



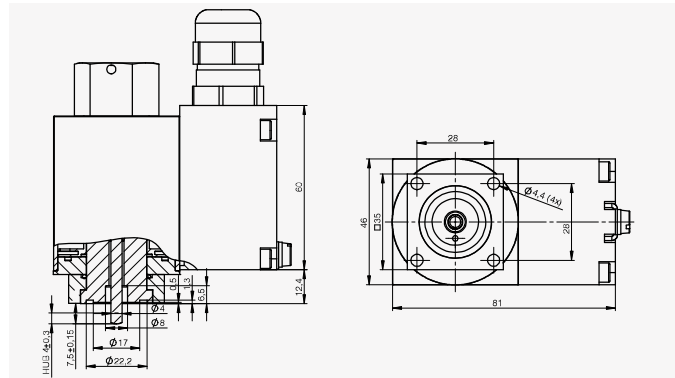
The values can deviate +/- 5 %

Technical data	24 V	12 V
limit current [A]	0.67	1.35
duty cycle [%]	100	100
max. ambient temperature [°C]	55	55
max. medium temperature [°C]	+70	+70
ingress protection rating	IP67	IP67
thermal class (coil)	H	H
tube diameter [mm]	19	19
static working pressure [bar]	250	250
working stroke [mm]	3; 2,5 (5,5); 1,8; 1,6; 2,5 (5,5)	3; 2,5 (5,5); 1,8; 1,6; 2,5 (5,5)
adaptor flange	free	free
manual override	yes	yes
surface treatment	iron parts zinc-plated EN 12329-Fe/Zn8/C or DIN 50979 Fe//ZnNi4-8//Cn//TO RoHS-conformed	iron parts zinc-plated EN 12329-Fe/Zn8/C or DIN 50979 Fe//ZnNi4-8//Cn//TO RoHS-conformed

Type	Certification	Ambient temperature	Labeling
EX14	NEC 500 (USA)	-40 °C up to +55 °C	XP, Class I, Division 1, Group C, D, T4 DIP, Class II, Division 1, Group E, F, G T4 DIP, Class III, Division 1 & 2
	NEC 505 (USA) NEC 506 (USA)	-40 °C up to +55 °C	Class I, Zone 1, AEx d IIB, T4 Gb Zone 21, AEx tb IIIC T135 °C Db
	CEC Section 18 Annex J	-40 °C up to +55 °C	XP, Class I, Division 1, Group C, D, T4 DIP, Class II, Division 1, Group E, F, G T4 DIP, Class III, Division 1 & 2
	CEC Section 18	-40 °C up to +55 °C	Class I, Zone 1, AEx d IIB, T4 Gb
	ATEX	-40 °C up to +55 °C	II 2G Ex d IIB T4 Gb II 2D Ex tb IIIC T135 °C Db
	IECEx	-40 °C up to +55 °C	Ex d IIB T4 Gb Ex tb IIIC T135 °C Db



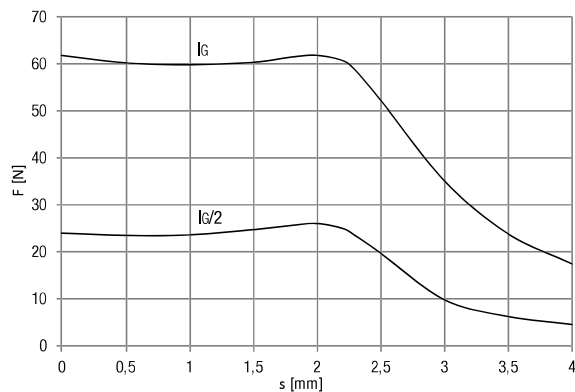
Proportional solenoid Ex 18



Proportional solenoid for hydraulic valves – Size 46

- Powerful square electromagnet in explosion-proof design – type of protection “m”. Approved for Zone 1, Zone 21 with gas and dust atmospheres as well as for the mining sector.
- Ideal for NG4 and NG6 valves.
- The solenoid tube and valve interface can be customised to a large extent. Available in various different voltages and output specifications.

Force vs. stroke diagram



The values can deviate +/- 5 %

Technical data	24 V	12 V
limit current [A]	0.34	0.65
duty cycle [%]	100	100
max. ambient temperature [C°]	+45/ +55/ +70	+45/ +55/ +70
max. medium temperature [C°]	+70	+70
ingress protection rating	IP67	IP67
thermal class (coil)	H	H
tube diameter [mm]	22	22
static working pressure [bar]	250	250
working stroke [mm]	4	4
adaptor flange	free	free
manual override	yes	yes
surface treatment	iron parts zinc-plated EN 12329-Fe/Zn8/C or DIN 50979 Fe//ZnNi4-8//Cn//T0 RoHS-conformed	iron parts zinc-plated EN 12329-Fe/Zn8/C or DIN 50979 Fe//ZnNi4-8//Cn//T0 RoHS-conformed

Type	Certification	Ambient temperature	Labeling DC	AC
EX18	ATEX	-40 °C up to +70 °C	I M2 Ex e mb I Mb	I M2 Ex mb I Mb
		for Tx = T4 or T135 °C and Pn = 10 W	II 2G Ex e mb IIB Tx Gb	II 2G Ex mb IIB Tx °C Gb
		-40 °C up to +55 °C	II 2D Ex tb IIIC Tx °C Db	II 2D Ex mb IIIC Tx °C Db
		for Tx = T5 or T100 °C and Pn = 10 W		
	IECEx	-40 °C up to +45 °C	Ex e mb I Mb	Ex mb I Mb
		for Tx = T6 or T85 °C and Pn = 10 W	Ex e mb IIB Tx Gb	Ex mb IIB Tx °C Gb
		-40 °C up to +60 °C	Ex tb IIIC Tx °C Db	Ex mb IIIC Tx °C Db
		for Tx = T4 or T135 °C and Pn = 18 W		