Data sheet



Fan speed controller

XGE

Used in refrigeration and air conditioning units

Description

Fan speed controller XGE stabilizes condensing pressure by changing condenser's fan speed. The controller reduces fan noise and saves energy in low ambient conditions.
Widespread usage in refrigeration and air conditioning units.

Extensive performance testing under different conditions and strict quality control procedures ensure trouble free operation for many years. Compact size, reduced weight and high degree of protection means that it can be mounted directly on refrigeration lines. Panel mounting also possible.
Easy adjusting made by the turn of a setting screw situated on the top surface. Specially designed heat dissipation radiator ensures no overheating and extended lifetime.
XGE-EC version for EC fan motors.

Features & benefits

- Wide regulating range
- Compact design
- Male or female pressure connection
- Easy setting and adjusting
- Simple and easy electrical connection
- Cut off type or Minimum speed type
- Fitted with an electro-magnetic suppression filter

Ordering

Product code numbers

Table: XGE, SI units

Catalogue number	Refrigerant	Factory setting	Adjusting range	Proportional band	Operational range	Mode	Pressure connection	Code number [1]
		[bar]	[bar]	[bar]	[bar]			
XGE-2C	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	8	8 – 18	4.5	3.5 – 18	Cut-off	Female	061H3144
XGE-4C		19	10 – 25	6	4 – 25	Cut-off	Female	061H3140
XGE-4CB		19	10 – 25	6	4 – 25	Cut-off	Male	061H3142
XGE-6C	R410A [2]	28	22 – 39	7	15 – 39	Cut-off	Female	061H3160
XGE-6CB	R410A [2]	28	22 – 39	7	15 – 39	Cut-off	Male	061H3162
XGE-4M	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	19	10 – 25	6	4 – 25	Min. speed	Female	061H3240
XGE-4MB		19	10 – 25	6	4 – 25	Min. speed	Male	061H3242
XGE-6M	R410A [2]	28	22 – 39	7	15 – 39	Min. speed	Female	061H3260

[1] Code numbers available in Multipack. Please contact Danfoss for code numbers available in Industrial pack

[2] In addition to the standard refrigerants.

Table: XGE, US units

Catalogue number	Refrigerant	Factory setting	Adjusting range	Proportional band	Operational range	Mode	Pressure connection	Code number [3]
		[psi]	[psi]	[psi]	[psi]			
XGE-2C	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	116	116 – 261	65	51 – 261	Cut-off	Female	061H3144
XGE-4C		276	145 – 362	87	58 – 362	Cut-off	Female	061H3140
XGE-4CB		276	145 – 362	87	58 – 362	Cut-off	Male	061H3142
XGE-6C	R410A [4]	406	319 – 566	101	217 – 566	Cut-off	Female	061H3160
XGE-6CB	R410A [4]	406	319 – 566	101	217 – 566	Cut-off	Male	061H3162
XGE-4M	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	276	145 – 362	87	58 – 362	Min. speed	Female	061H3240
XGE-4MB		276	145 – 362	87	58 – 362	Min. speed	Male	061H3242
XGE-6M	R410A [4]	406	319 – 566	101	217 – 566	Min. speed	Female	061H3260

[3] Code numbers available in Multipack. Please contact Danfoss for code numbers available in Industrial pack

[4] In addition to the standard refrigerants.

Table: XGE-EC, SI Units

Catalogue number	Refrigerant	Factory setting	Adjusting range	Proportional band	Operational range	Pressure connection	Code number [5]
		[bar]	[bar]	[bar]	[bar]		
XGE-2SE	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	8	8 – 18	4.5	3.5 – 18	Female	061H3245
XGE-4SE		19	10 – 25	6	4 – 25	Female	061H3246
XGE-6SE	R410A [6]	28	22 – 39	7	15 – 39	Female	061H3247

[5] Code numbers available in Multipack. Please contact Danfoss for code numbers available in Industrial pack

[6] In addition to the standard refrigerants.

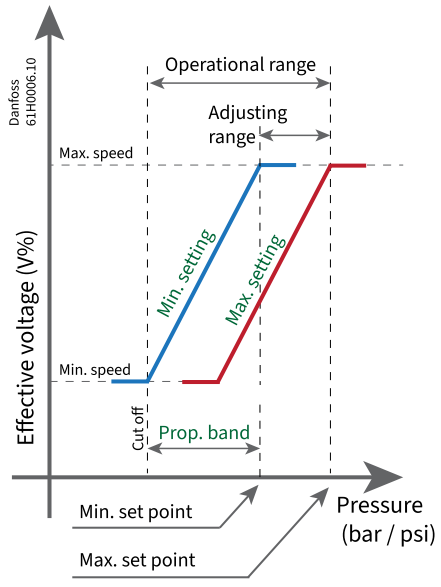
Table: XGE-EC, US units

Catalogue number	Refrigerant	Factory setting	Adjusting range	Proportional band	Operational range	Pressure connection	Code number [7]
		[psi]	[psi]	[psi]	[psi]		
XGE-2SE	R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R513A	72	116 – 261	65	51 – 261	Female	061H3245
XGE-4SE		276	145 – 362	87	58 – 362	Female	061H3246
XGE-6SE	R410A [8]	406	319 – 566	101	217 – 566	Female	061H3247

[7] Code numbers available in Multipack. Please contact Danfoss for code numbers available in Industrial pack.

[8] In addition to the standard refrigerants.

Figure: Effective Voltage



Setting

The easily accessible adjusting screw is situated on the top surface of XGE. The direction to turn the screw for decrease or increase in the setting pressure is indicated by arrow markings next to the adjusting screw.

Table: XGE

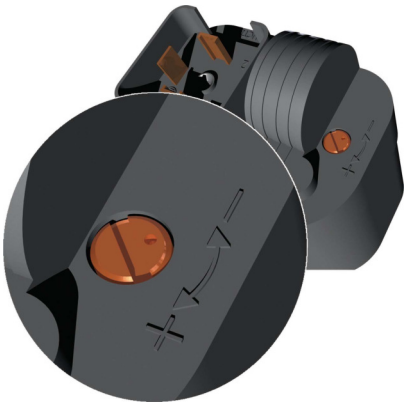
Series	360° = 1 turn
XGE-2	approx. 0.8 bar / 11.6 psi
XGE-4	approx. 1.5 bar / 22 psi
XGE-6	approx. 2.5 bar / 36 psi

Table: XGE-EC

Series	360° = 1 turn
XGE-2SE	approx. 0.8 bar / 11.6 psi
XGE-4SE	approx. 1.5 bar / 22 psi
XGE-6SE	approx. 2.5 bar / 36 psi

Every turn of the adjusting screw corresponds to a specified change in the setting value. A punch hole on the adjusting screw helps keep track of the number of turns made

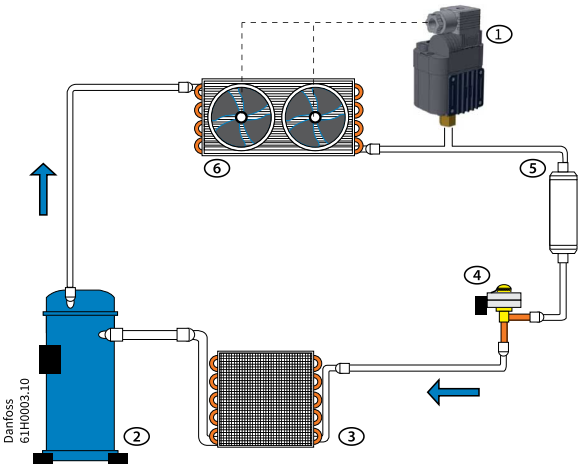
Figure: XGE adjusting screw



Overview

Application examples

Figure: Typical refrigeration system using XGE fan speed controller



1	XGE Fan speed controller
2	Compressor
3	Evaporator
4	Expansion valve
5	Receiver
6	Condenser

Functions

Figure: XGE

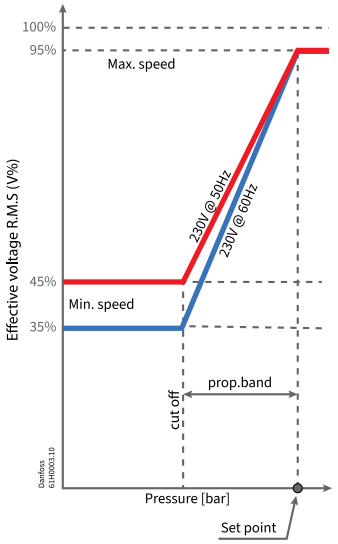
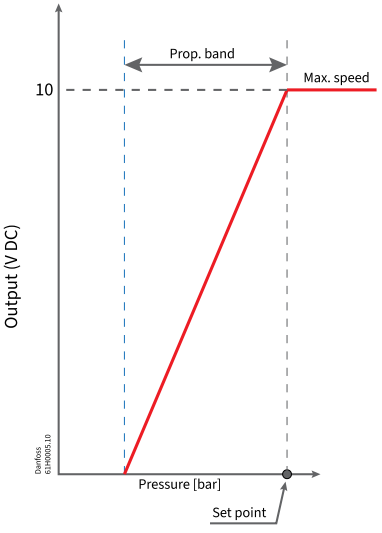


Figure: XGE-EC



Fan speed controller keeps the condensing pressure at a steady level by regulating the speed of the AC/EC fan motors. When pressure is declining the controller decreases the output voltage changing the speed of AC/EC fan motor. The proportional band is a non-adjustable pressure difference between max. and min. pressure where the regulation occurs.

For min. pressure the controller can either operate with min. speed or completely cuts off the output voltage, depending on the type of the controller.

XGE saves energy and reduces noise by lowering the fan speed or cutting it off.

Product details

General data

Table: XGE

Units	Voltage
Maximum current	3 A
Minimum current	0.2 A
Enclosure	IP65
Maximum working pressure	47 bar / 681 psi
Supply frequency	50 / 60 Hz
Operating ambient temperature	-20 – 55 °C / -4 – 131 °F
Fluid temperature	-20 – 70 °C / -4 – 158 °F
Power supply	200 – 240 V AC
Pressure connection	7/16 -20UNF female (with depressor pin) and male
Maximum voltage output	95% of supply voltage for 50 Hz
Cut off / Minimum speed	45% of supply voltage for 50 Hz
	35% of supply voltage for 60 Hz

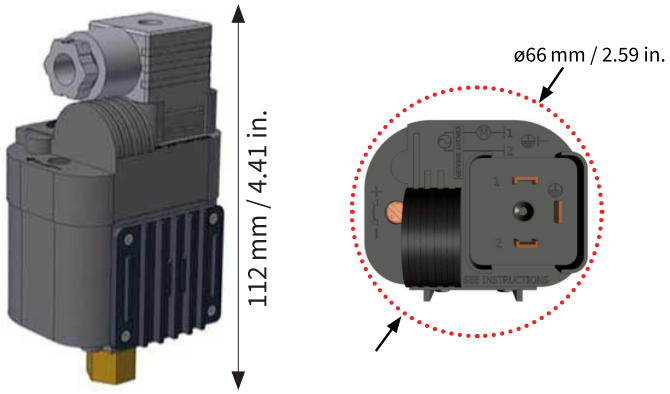
NOTE:
XGE can also be used for 4A rated fans provided the ambient temperature does not exceed 40 °C / 104 °F. Please contact Danfoss regarding the maximum ambient temperature limits at ratings between 3 A and 4 A.

Table: XGE-EC

Units	Voltage
Input voltage	10 V DC
Output	0 – 10 V DC
Rated current	1 mA
Enclosure	IP65
Maximum working pressure	47 bar / 681 psi
Ambient temperature	-20 – 55 °C / -4 – 131 °F
Fluid temperature	-20 – 70 °C / -4 – 158 °F
Pressure connection	7/16 - 20UNF female flare with depressor pin

Dimensions

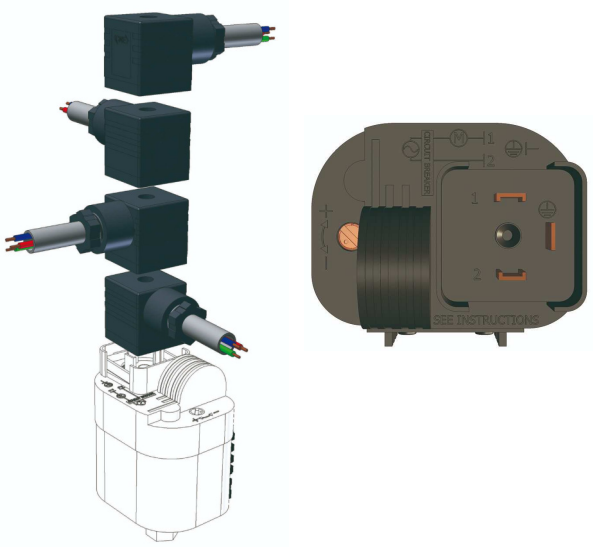
Figure: Dimensions and weight for type XGE



- Horizontal space: diameter of 66 mm / 2.59 inch
- Height: 90 mm / 3.54 inch (112 mm / 4.41 inch with plug fitted)
- Weight: 180 g / 6.35 oz

Connections

Figure: Wiring and electrical connection



Electrical connection of XGE to the fan motor is simple and easy:
With the use of a square "quick connect" plug, the connection is possible in 4 different directions, allowing many different machine configurations to accommodate XGE, depending on the position of the fan motor and orientation needed for the electrical cable.
For wiring, a simple diagram is embossed onto the XGE surface and also indicated on the plug.

Installation

The XGE is designed to be directly mounted onto the refrigeration line making the most of free space in a unit. In cases where space is even more limited, XGE can be fixed onto a simple bracket (supplied as an accessory) and screwed to a panel.

Table: Panel mounting bracket

Code number	Catalogue number
061H3102	XGE-AE01

Figure: Direct mount

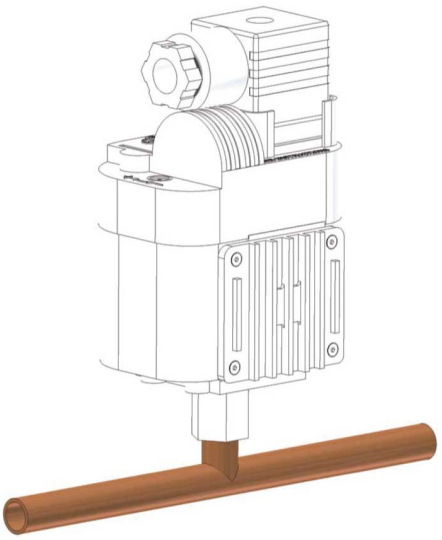
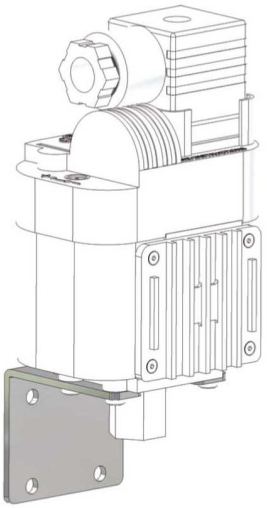


Figure: Panel mount



Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
UA Declaration	Danfoss UA 9032	Danfoss	UA RoHS
Export Control Declaration	Fan speed controller	Danfoss	
UA Declaration	Danfoss UA 2024-07-25 cooling sensors	Danfoss	EMC, LVD

Contact details

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