XGE / RGE, Fan speed controllers

RGE and XGE are fan speed controllers made by Danfoss Saginomiya. RGE is available in single and three phase versions.
RGE is a simple and efficient all-in-one pressure sensor and fan speed control, featuring a reliable sensing mechanism using bellows.
For compact units, the XGE provides the ideal solution for reliable fan control.

It can be mounted directly onto the refrigeration line, adjustment is made by the turn of a setting screw, and electrical connection is very versatile. It can also be panel mounted where space is insufficient on the refrigeration line.
RGE and XGE can be used for all commonly used refrigerants, including R410A.
XGE-EC version for EC fan motors.

Features
XGE / RGE

Easily accessible adjusting screw

Waterproof housing with IP65

¼ inch female or male connection (or ¼ inch female with capillary tube for RGE)

Quick electrical connection in 4 different directions

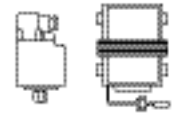Installation flexibility: direct or panel mounting

Facts

Application:
- Freezing and refrigeration condensing units
- Packaged air conditioners
- Chillers

- Simple to install and easy setting
  "All in one": senses pressure and controls fan speed
- Reliable sensing mechanism

- XGE:
– Compact and light weight (length: 112 mm, diameter: 66 mm weight: 180 g)
– Can be directly mounted onto the refrigeration line or fixed onto a simple bracket (accessory) and screwed to a panel
– Easily accessible adjusting screw on the top surface
– Easy wiring and electrical connection
– Specially designed heat dissipation radiator to prevent overheating
- Electrical rating from 3 – 8 A (single phase) and 5 – 7 A (3 phase)

- Applicable to R22, R134a, R404A, R407A, R407C, R407F, R410A*), R448A, R449A, R450A, R452A, R513A
) only high pressure models with adjusting range
- 22 – 39 bar for XGE and 16 – 39 bar for RGE
- Enclosure: IP65 (XGE) and IP54 (RGE)
- Full CE / EMC approved
- UL recognized
- Dual frequency: 50/60 Hz
- Max. working pressure: 47 bar
- With low speed operation it is possible to select either minimum speed operation or cut-off operation -60 – 120 °C

Technical data and ordering

XGE / RGE - Fan speed controllers

Ordering

Type	Mode [1]	Pressure connection [in]	Adjusting range [bar]	P-band [bar]	Pre-setting [bar]	Rated motor rating [A]	No. of phase / voltage [V AC]	Box qty	Code no.
XGE-2C	C	¼ female flare	8 – 18	4.5	8	0.2 – 3	1 / 200 – 240	50	061H3144
XGE-4C	C	¼ female flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3140
XGE-4CB	C	¼ male flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3142
XGE-6C	C	¼ female flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3160
XGE-6CB	C	¼ male flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3162
XGE-4M	M	¼ female flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3240
XGE-4MB	M	¼ male flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3242
XGE-6M	M	¼ female flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3260
RGE-Z1N4-7DS	C or M	¼ female flare	8 – 28	4	19	0.2 – 4	1 / 200 – 240	20	061H3005
RGE-Z1N6-7DS	C or M	¼ female flare	16 – 39	8	32	0.2 – 4	1 / 200 – 240	20	061H3021
RGE-Z1P4-7DS	C or M	¼ female flare	8 – 28	4	19	0.2 – 6	1 / 200 – 240	16	061H3008
RGE-Z1P6-7DS	C or M	¼ female flare	16 – 39	8	32	0.2 – 6	1 / 200 – 240	16	061H3022
RGE-Z1Q4-7DS	C or M	¼ female flare	8 – 28	4	19	0.2 – 8	1 / 200 – 240	16	061H3009
RGE-Z1Q6-7DS	C or M	¼ female flare	16 – 39	8	32	0.2 – 8	1 / 200 – 240	16	061H3023
RGE-Z3R4-7DS	C or M	¼ female flare	8 – 28	4	16	0.2 – 5	3 / 200 – 240	6	061H3003
RGE-X3R4-7DS	C or M	¼ female flare	8 – 28	4	16	0.2 – 5	3 / 380 – 415	6	061H3006
RGE-X3R6-7DS	C or M	¼ female flare	16 – 39	8	32	0.2 – 5	3 / 380 – 415	6	061H3028
RGE-Z3T4-7DS	C or M	¼ female flare	8 – 28	4	16	0.2 – 7	3 / 200 – 240	6	061H3050

[1] C = Cut-off
   M = Min. speed

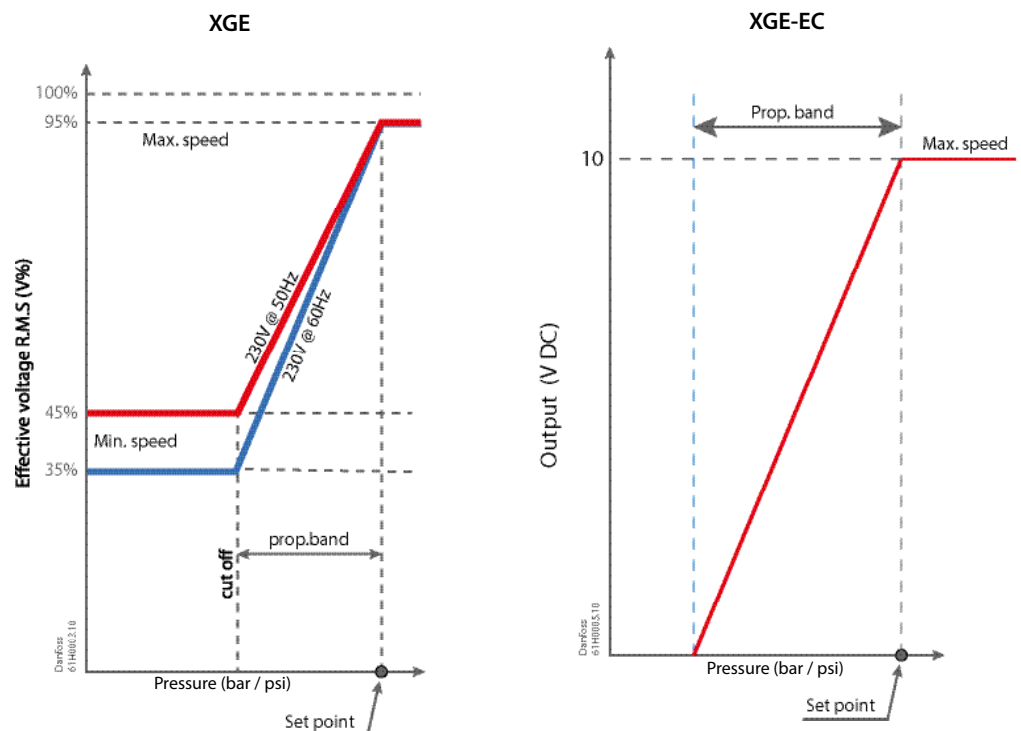## XGE-EC - Fan speed controllers for EC fan motors

Ordering

Type	Pressure connection [in]	Adjusting range [bar]	P-band [bar]	Pre-setting [bar]	Rated motor rating [A]	No. of phase / voltage [V DC]	Box qty	Code no.
XGE-2S-E	¼ female flare	8 – 18	4.5	8	.001	0 – 10	50	061H3245
XGE-4S-E	¼ female flare	10 – 25	6	19	.001	0 – 10	50	061H3246
XGE-6S-E	¼ female flare	22 – 39	7	28	.001	0 – 10	50	061H3247

Accessory

Type	Description	Dimensions	Box qty	Code no.
XGE-AE01	Fixing bracket accessory for panel mount	H: 38 mm, W: 42 mm, D: 45 mm	50	061H3102

Function

XGE

XGE-EC

Electronic controls – Overview

Type	Relay / temperature sensor	Defrost heating	Cooling or heating function	Rail heat	Fan	Alarm / light / misc.	2nd compressor	DI / DO / AI / AO	Batterie for clock (optional)	HACCP via system / HACCP integrated	Application module	Definition and waiting of thermostat sensors	Defrost / defrost on demand / defrost on demand via bus	Voltage 230 V	Voltage 115 V	Voltage 24 V	With screw terminals	With plug connection	Valve control	Room thermostat	UPS connection	Pressure controls	0-10 V / 4-20 mA input	0-10 V / 4-20 mA output	Superheat regulation	Reference displacement	External display	Data communication optional / on board	Note – language	Code number
Case controller																														
EKC 202A	2/3	x				x/-/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x							x	x/-		084B8521
EKC 202B	1/2	x			x	x/-/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x							x	x/-		084B8522
EKC 202C	1/2	x			x	x/x/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x							x	x/-		084B8523
EKC 202C-MS	1/2	x			x	x/x/-		x/x/-/-	x	-/-			x/-/x	x					TEV	x							x	x/-	NTC	084B8543
EKC 202D1	1/3	x		x	x	x/x/x		x/x/-/-	x	x/-	x	x	x/x/x	x					TEV	x							x	x/-		084B8554
EKC 302A	2/2					x/-/-		x/x/-/-		x/-			x/-/x	x				x	TEV	x								x/+		084B4162
EKC 302B	3/2	x			x			x/x/-/-		x/-			x/-/x	x				x	TEV	x								x/+		084B4163
EKC 302D	4/3	x		x	x	x/x/x		x/x/-/-		x/-	x		x/-/x	x				x	TEV	x								x/+		084B4164
AK-CC 210	4/3	x		x	x	x/x/x	x	x/x/-/-	x	x/x	x	x	x/x/x	x					TEV	x							x	x/-		084B8520
AK-CC 250A	4/3	x		x	x	x/x/x	x	x/x/-/-	x	x/x	x	x	x/x/x	x					TEV	x							x	-/x		084B8528
AK-CC 350	4/3	x		x	x	x/x/x	x	x/x/-/-		x/x			x/x/x	x				x	TEV	x							x	+/+		084B4165
AK-CC 450	6/5	x		x	x	x/x/x		x/x/-/-		x/x	x	x	x/x/x	x				x	TEV	x							x	+/+		084B8022
AK-CC 550A	6/5	x		x	x	x/x/x		x/x/-/-		x/-	x	x	x/x/x	x				x	AKV	x						x	x	+/+		084B8030
AK-CC 750A	9/5	x		x	x	x/x/x		x/x/ x/x		x/-	x	x	x/x/x	x			x	x	4xAKV 4xStrep 4xTEV	x						x	x	-/x	EN, DE, FR, IT, NL, EN, ES, PT, PL, RU, CZ, CH, DK, FI	080Z0140
Superheat Controller																														
EKE 1A	1/1					x/x/-		x/-/x/-					-/-/x		x	x			stepper	x	x	x	x/-	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5300
EKE 1B	1/2					x/x/-		x/-/x/-					-/-/x		x	x			stepper	x	x	x	x/-	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5350
EKE 1C	1/3					x/x/-		x/-/x/-					-/-/x		x	x			stepper	x	x	x	x/x	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5400
EKC 315A	2/2					x/-/-									x	x			AKV/ ICM	x	x	x	-/x	-/x	x	x		x/-		084B7086
EKC 312	1/2					x/-/-									x	x			ETS		x		-/-	-/-	x			x/-		084B7250
EKC 316A	2/2					x/-/-									x	x			ETS	x	x	x	-/x	-/x	x	x		x/-		084B7088
EKD 316	1/2					x/-/-									x	x			ETS		x	x	x/x	-/-	x			x/-		084B8040
Temperature Controller																														
EKC 368	1/2	x			x	x/-/-												x	KVS	x		-/x					x	-/x		084B7079
ERC 211	1/1		x					x/x/x/-					x/-/-		x	x				x							x	x/-		080G3290
ERC 211	1/1		x					x/x/x/-					x/-/-	x		x				x							x	x/-		080G3293
ERC 213	3/2	x			x	x/-/-		x/x/x/-					x/x/-		x	x				x							x	x/-		080G3291
ERC 213	3/2	x			x	x/-/-		x/x/x/-					x/x/-	x		x				x							x	x/-		080G3294
ERC 214	1/2	x			x	x/x/-		x/x/x/-					x/x/-		x	x				x							x	x/-		080G3292
ERC 214	1/2	x			x	x/x/-		x/x/x/-					x/x/-	x		x				x							x	x/-		080G3295

Electronic controls – Overview

Liquid level Controller

Type	Relay / temperature sensor	Defrost heating	Cooling or heating function	Rail heat	Fan	Alarm / light / misc.	2nd compressor	DI / DO / AI / AO	Batterie for clock (optional)	HACCP via system / HACCP integrated	Application module	Definition and waiting of thermostat sensors	Defrost / defrost on demand / defrost on demand via bus	Voltage 230 V	Voltage 115 V	Voltage 24 V	With screw terminals	With plug connection	Valve control	Room thermostat	UPS connection	Pressure controls	0-10 V / 4-20 mA input	0-10 V / 4-20 mA output	Superheat regulation	Reference displacement	External display	Data communication optional / on board	Note – language	Code number
EKE 347																		x	ICM, AKV/A									-/x	EN, CN, PT, RU, SP, FR, IT, GER, ARAB	080G5000

Capacity Controller

Type	Relay / temperature sensor	Defrost heating	Cooling or heating function	Rail heat	Fan	Alarm / light / misc.	2nd compressor	DI / DO / AI / AO	Batterie for clock (optional)	HACCP via system / HACCP integrated	Application module	Definition and waiting of thermostat sensors	Defrost / defrost on demand / defrost on demand via bus	Voltage 230 V	Voltage 115 V	Voltage 24 V	With screw terminals	With plug connection	Valve control	Room thermostat	UPS connection	Pressure controls	0-10 V / 4-20 mA input	0-10 V / 4-20 mA output	Superheat regulation	Reference displacement	External display	Data communication optional / on board	Note – language	Code number
AK-PC 351	5/4				x	x		x/x/x/x						x			x								x			-/x	EN, PT, IT, CH, RU	080G0289
AK-PC 551	5/8				x	x		x/x/x/x				x					x								x			-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0281
AK-PC 551	5/8				x	x		x/x/x/x						x			x								x			-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0283
AK-PC 651	15/10				x	x		x/x/x/x				x					x								x			-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0312
AK-PC 772A	8/11					4x		x/x/x/x						x			x											-/x	EN, DE, FR, IT, NL	080Z0201
AK-PC 781A	8/11					8x		x/x/x/x									x	x										-/x	EN, DE, FR, IT, NL, ES, PT, RU, CZ, DK, FI, PL, CN	080Z0191
AK-PC 782A	8/11					8x		x/x/x/x						x			x											-/x	EN, DE, FR, IT, NL, ES, PT, RU, CZ, DK, FI, PL, CN	080Z0192
AK-PC 783A	8/11					8x		x/x/x/x									x	x										-/x	EN, DE, FR, IT, NL, ES, PT	080Z0193

Condensing unit Controller

Type	Description	Data communication optional / on board	Code number
AK-RC 101	Single-phase	-/x	080Z3200
AK-RC 103	Three-phase (3 kW), 4.5-6.3 A	-/x	080Z3201
AK-RC 103	Three-phase (3 kW), 7-10 A	-/x	080Z3202
AK-RC 103	Three-phase (5 kW), 11-16 A	-/x	080Z3206
AK-RC 103	Three-phase (5 kW), 14-20 A	-/x	080Z3207

Front end full store solution

Type	Description	Code number
AK-SM 810	System Manager for Small Stores	080Z4006
AK-SM 820	System Manager for Small Stores w / Display / Keypad	080Z4004
AK-SM 850	System Manager for Refrigeration Only w / Display / Keypad	080Z4001
AK-SM 880	System Manager for Total Store Control w / Display / Keypad	080Z4008
AK-SM 800AL	Alarm logger w/Display	080Z4014

Electronic controls – Overview

Accessory for SM800

Extension modules

AK-XM 101A	8 AI	080Z0007
AK-XM 102A	8 DI Low voltage	080Z0008
AK-XM 102B	8 DI High voltage	080Z0013
AK-XM 103A	4 AI + 4 AO	080Z0032
AK-XM 204A	8 Relay SPDT	080Z0011
AK-XM 204B	8 Relay SPDT, Override	080Z0018
AK-XM 205A	8 AI, 8 Relay SPDT	080Z0010
AK-XM 205B	8 AI, 8 Relay SPDT, Override	080Z0017
AK-XM 208C	8 AI, 4 stepper	080Z0023

Communication module

AK-CM101C	LON RS485	080Z0063