

*Danfoss*



ENGINEERING  
TOMORROW

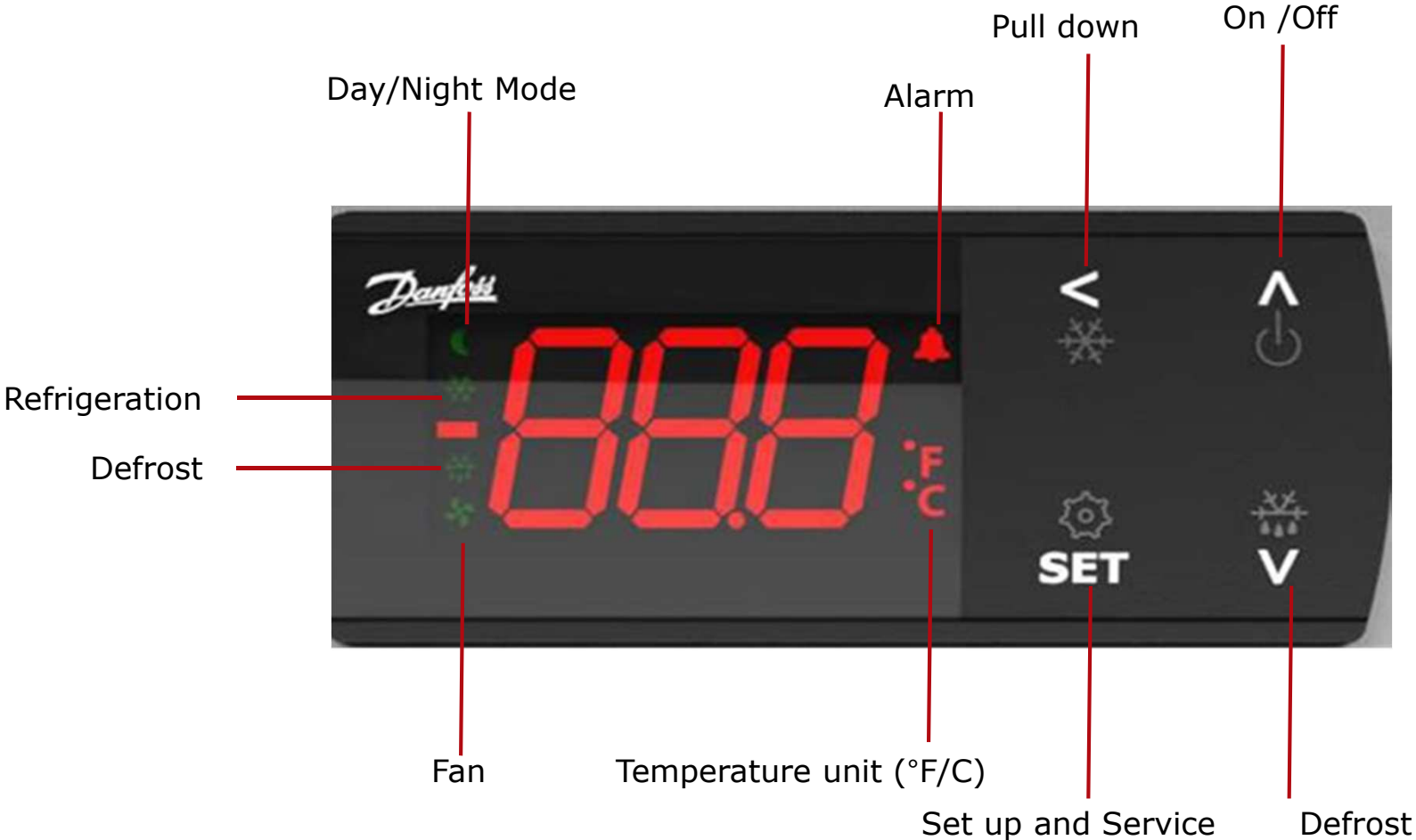


# Product Information: ERC 211/213 Quick Guide

REL



# Display Icon and Button Description



# ERC21x KITS

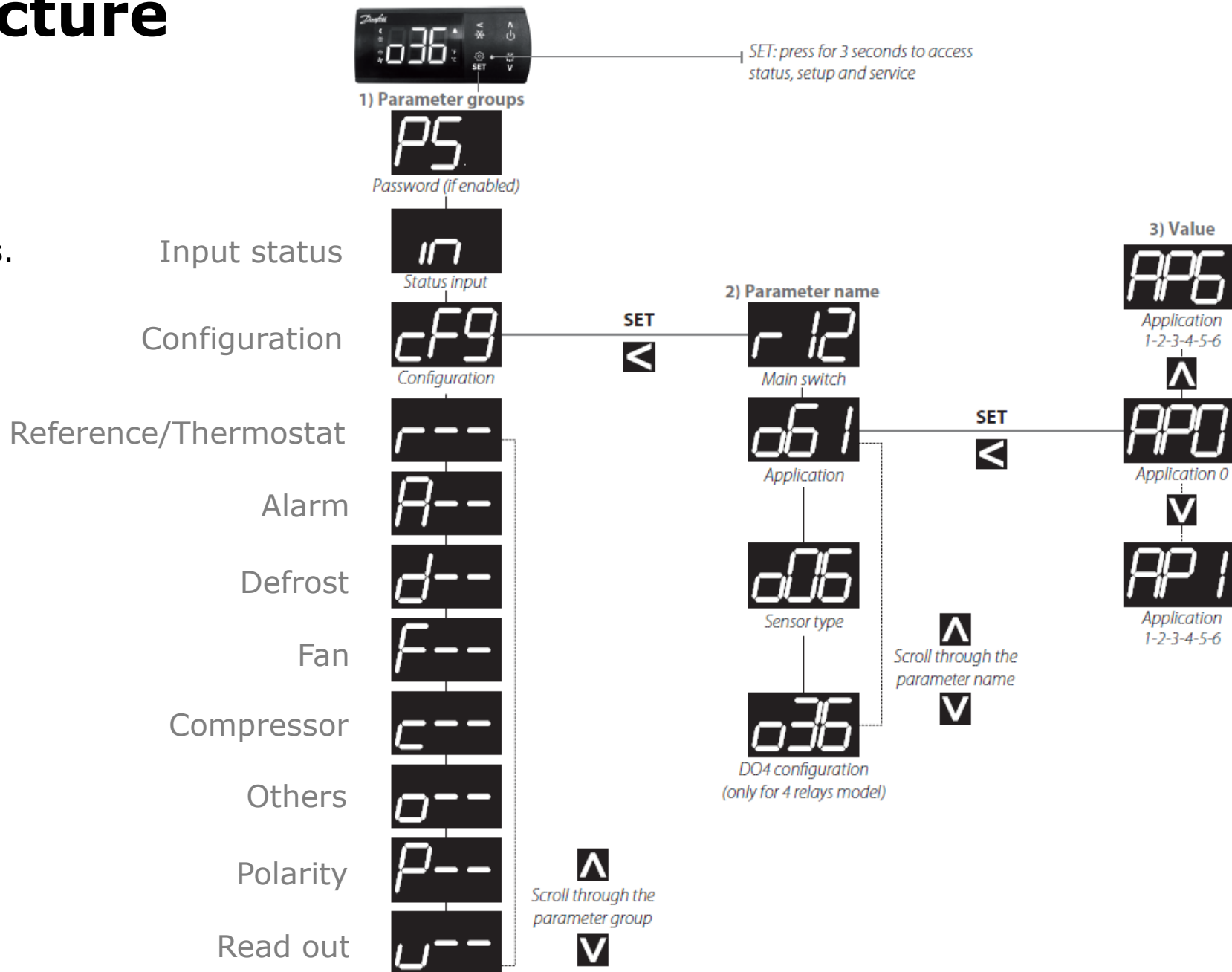
	Description	Code no.
<b>ERC 211 KIT</b>		
	Red LED, 230 V, 1 relay	080G3263
<b>ERC 213 KIT</b>		
	Red LED, 230 V, 3 relays	080G3265



- 2 models
  - 1 relay, 3 relays
  - 115 V AC/230 V AC/50-60 Hz
- Sensor type NTC 10k
  - 1 sensor in the ERC211 KIT
  - 2 sensors in the ERC213 KIT
- 2 mounting clamps
- Multilanguage instruction sheet

# Menu Structure

- Menu's grouped under 10 different categories for easy access of parameters.
- Menu codes nomenclature are in line with EKC Platform



# Initial Configurations – Pre Installed Application

App	Mode	Description	Temperature	Defrost type	Defrost end
App 0	Cooling/ Heating	No predefined application			
App 1	Cooling	Medium temperature without defrost	(4 – 20 °C)	None	None
App 2	Cooling	Medium temperature with timed natural defrost	(2 – 6 °C)	Natural	Time
App 3	Cooling	Medium temperature with natural defrost stop on air temperature	(2 – 6 °C)	Natural	Air temperature
App 4	Heating	Heating Thermostat	(20 – 60 °C)	None	None
App 5	Cooling/ Heating	No predefined application with simplified list of parameter			



1 - Press Power on



2 - Within 30 seconds after power on, press "<" BACK for 3 seconds



3 - Press SET to select pre-installed application

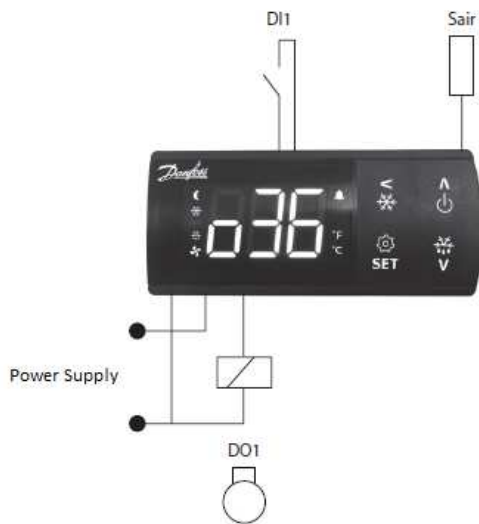


4 - Select application "AP0 – AP5" and press SET to save

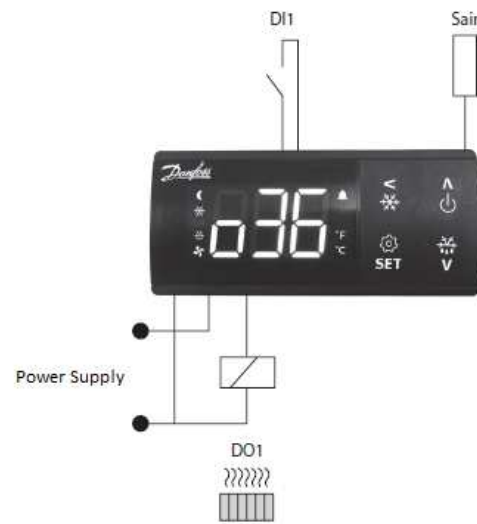


5 - Press SET to select sensor types and press SET to save

ERC 211 - APP 1/2/3



ERC 211 - APP 4



**Note:** The application can later be found (and changed) in the "o61" application menu in the quick configuration 'cfg'.

# ERC213 – Pre Installed Application - 3 Relays versions

App	Mode	Description	Temperature	Defrost type	Defrost end
App 0	Cooling	No predefined application			
App 1	Cooling	Medium temperature ventilated refrigeration units with timed natural defrost	(2 – 6 °C)	Natural	Time
App 2	Cooling	Medium temperature ventilated refrigeration units with timed electrical defrost	(0 – 4 °C)	Electrical	Time
App 3	Cooling	Low temperature ventilated refrigeration units with timed electrical defrost	(-26 – -20 °C)	Electrical	Time
App 4	Cooling	Medium temperature ventilated refrigeration units with electrical defrost (by temperature)	(0 – 4 °C)	Electrical	Temperature
App 5	Cooling	Low temperature ventilated refrigeration units with electrical defrost (by temperature)	(-26 – -20 °C)	Electrical	Temperature
App 6	Cooling	No predefined application with simplified list of parameters			



1 - Press Power on



2 - Within 30 seconds after power on, press "<" BACK for 3 seconds



3 - Press SET to select pre-installed application

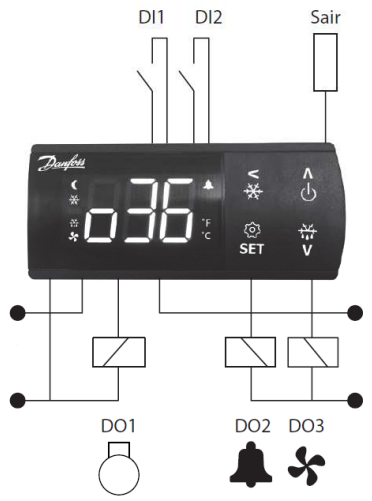


4 - Select application "AP0 – AP6" and press SET to save

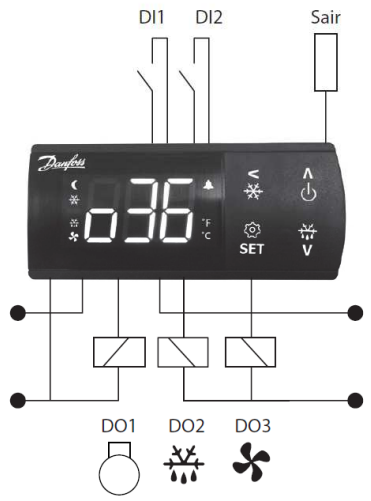


5 - Press SET to select sensor types and press SET to save

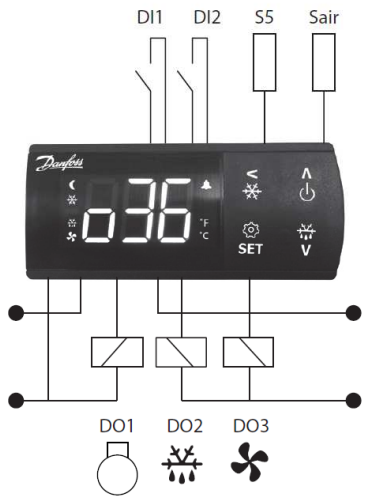
ERC 213 - APP 1



ERC 213 - APP 2-3



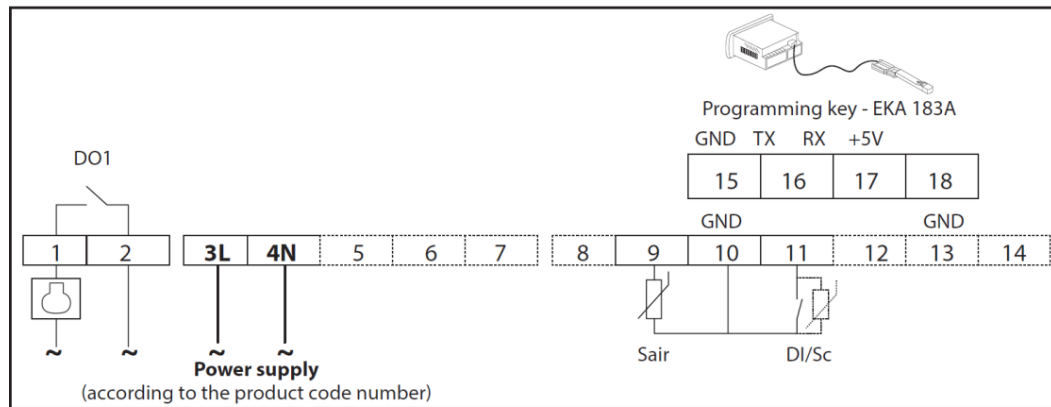
ERC 213 - APP 4-5



# Wiring Diagram



ERC 211 - connection diagram

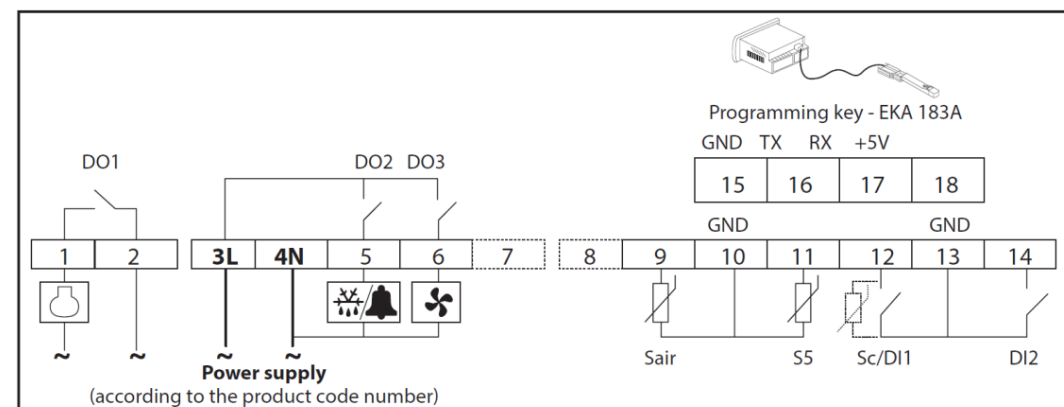


Sair = Control sensor

Sc = Condenser sensor

Di1 = input configurable under menu code **o02**.

ERC 213 - connection diagram



Sair = Control sensor

S5 = Defrost (evaporator) sensor

Sc = Condenser sensor

Di1 = input configurable under menu code **o02**

Di2 = input configurable under menu code **o37**

# Technical Specifications

## ERC211

FEATURES	DESCRIPTION
Input	Low voltage, regulated, galvanically isolated, 115 V AC or 230 V AC, 50/60 Hz input
Rated power	Less than 0.7 W
Inputs	2 inputs: 1 analogue, 1 analogue / digital
Types of sensors allowed	NTC 5000 Ohms at 25 °C (beta = 3,980 at 25/100 °C - EKS 211 for example) NTC 10000 Ohms at 25 °C (beta = 3,435 at 25/85 °C - EKS 221 for example) PTC 990 Ohms at 25 °C (EKS 111 for example) Pt1000 (AKS 11, AKS 12, AKS 21 for example)
Sensors in "Kit Solution"	NTC 10000 Ohms at 25 °C, 1.5 m cable
Precision	Measuring range: -40 – 105 °C (-40 – 221 °F)
	Controller accuracy: +/-1 K below -35 °C, +/-0.5 K between -35 – 25 °C, +/-1 K above 25 °C
Output	Compressor relay DO1: 16 A, 16 (16) A, EN 60730 10 FLA / 60 LRA at 230 V, UL60730 16 FLA / 72 LRA at 115 V, UL60730
Display	LED 3-figure display, decimal point and multifunction icons, °C + °F scale
Operating Conditions	-10 – 55 °C (14 – 131 °F), 90% Rh
Storage conditions	-40 – 70 °C (-40 – 158 °F), 90% Rh
Protection	Front: IP65 (with seal) Rear: IP00
Environmental data	Pollution degree II, condensate free
Heat and fire resistant	Category D (UL94-V0)
EMC category	Category I
Certifications	UL acknowledgement (USA and Canada) (UL 60730) ENEC (EN 60730) CQC EC (LVD and EMC Directives) EAC (GHOST) NSF ROHS2.0 HACCP temperature monitoring in compliance with EN134785 Class I if used with sensor AKS 12

## ERC213

FEATURES	DESCRIPTION
Input	Low voltage, regulated, galvanically isolated, 115 V AC or 230 V AC, 50/60 Hz input
Rated power	Less than 0.7 W
Inputs	4 Inputs: 2 analogue, 1 analogue / digital and 1 digital
Types of sensors allowed	NTC 5000 Ohms at 25 °C (beta = 3,980 at 25/100 °C - EKS 211 for example) NTC 10000 Ohms at 25 °C (beta = 3,435 at 25/85 °C - EKS 221 for example) PTC 990 Ohms at 25 °C (EKS 111 for example) Pt1000 (AKS 11, AKS 12, AKS 21 for example)
Sensors in "Kit Solution"	NTC 10000 Ohms at 25 °C, 1.5 m cable
Precision	Measuring range: -40 – 105 °C (-40 – 221 °F)
	Controller accuracy: +/-1 K below -35 °C, +/-0.5 K between -35 – 25 °C, +/-1 K above 25 °C
Output	Compressor relay DO1: 16 A, 16 (16) A, EN 60730 10 FLA / 60 LRA at 230 V, UL60730 16 FLA / 72 LRA at 115 V, UL60730
	Defrosting relay DO2: 8 A, 2 FLA / 12 LRA, UL60730 8 A, 2 (2 A), EN60730
	Fan relay DO3: 3 A, 2 FLA / 12 LRA, UL60730 3 A, 2 (2 A), EN60730
Display	LED 3-figure display, decimal point and multifunction icons, °C + °F scale
Operating Conditions	-10 – 55 °C (14 – 131 °F), 90% Rh
Storage conditions	-40 – 70 °C (-40 – 158 °F), 90% Rh
Protection	Front: IP65 (with seal) Rear: IP00
Environmental data	Pollution degree II, condensate free
Heat and fire resistant	Category D (UL94-V0)
EMC category	Category I
Certifications	UL acknowledgement (USA and Canada) (UL 60730) ENEC (EN 60730) CQC EC (LVD and EMC Directives) EAC (GHOST) NSF ROHS2.0 HACCP temperature monitoring in compliance with EN134785 Class I if used with sensor AKS 12



# Cross reference sheet

Danfoss	Characteristics	Eliwell	Carel	Dixell	AKO	Full Gauge	Other Danfoss
ERC 211 1 relay	<ul style="list-style-type: none"> <li>• 230 V (115 V)</li> <li>• 1 relay 16 A</li> <li>• 1 probe:               <ul style="list-style-type: none"> <li>- NTC 5 K</li> <li>- NTC 10 K</li> <li>- PTC</li> <li>- PT1000</li> </ul> </li> <li>• 1 Digital Input</li> </ul>	IC 901 EWPLUS 902 EWPLUS 961 ID 961 ID 961LX IDPlus 902 IDPlus 961	IR33(Smart) S PJEZS	XR 01CX XR 10CX XR 20CX XR 110C XR 120C	AKO D141XX	MT512	EKC102A
ERC 213 3 relay	<ul style="list-style-type: none"> <li>• 230 V (115 V)</li> <li>• 3 relay 16 A, 8 A, 3 A</li> <li>• 2-3 probe:               <ul style="list-style-type: none"> <li>- NTC 5 K</li> <li>- NTC 10 K</li> <li>- PTC</li> <li>- PT1000</li> </ul> </li> <li>• 1-2 Digital Input</li> <li>• 1 Input is configurable as analog/digital</li> </ul>	EWPLUS 971 ID 961A ID 970 ID 970LX ID 971 ID 971LX IDPlus 971	IR33(Smart) Y PJEZY	XR 30CX XR 40CX XR 130C XR 140C	AKO D142XX		EKC 102B
		EWPLUS 974 ID 974 ID 974LX IDPlus 974	IR33 F PJEZC	XR 50CX XR 60CX XR 150C XR 160C	AKO D143XX	TC900 TC920	EKC102C



**ENGINEERING  
TOMORROW**