ASKO

BUILT TO LAST LONGER

Service Manual Professional TD
Type: TD60.C

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Contents

Updates

Revi-sion	Date	Description	Initials
01	2009-08-12	Conference version	BPA
02	2010-04-29	Supplemented with information	MAS

Introduction

You are holding the service manual for TD60 tumble dryers.
It should be easy to service a tumble dryer. It is important that you, as a service technician, are provided the necessary conditions to work in an efficient and satisfactory manner. Our hope is that this service manual will prove a useful tool in your daily work.
The type designation can be found on the machine plate located on the right-hand side of the front panel (concealed by the door).

Asko Appliances AB
SE-534 82 Vara
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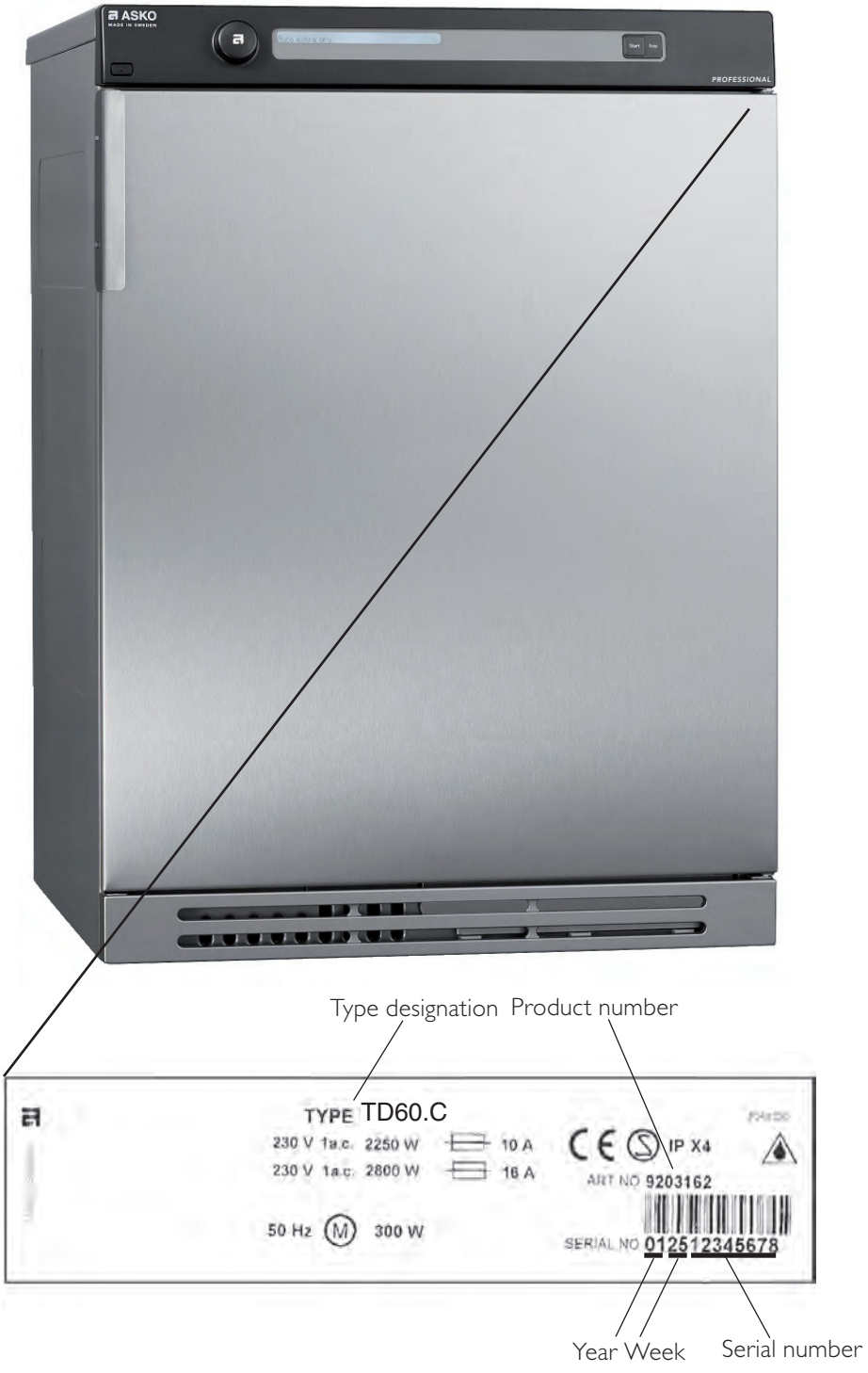
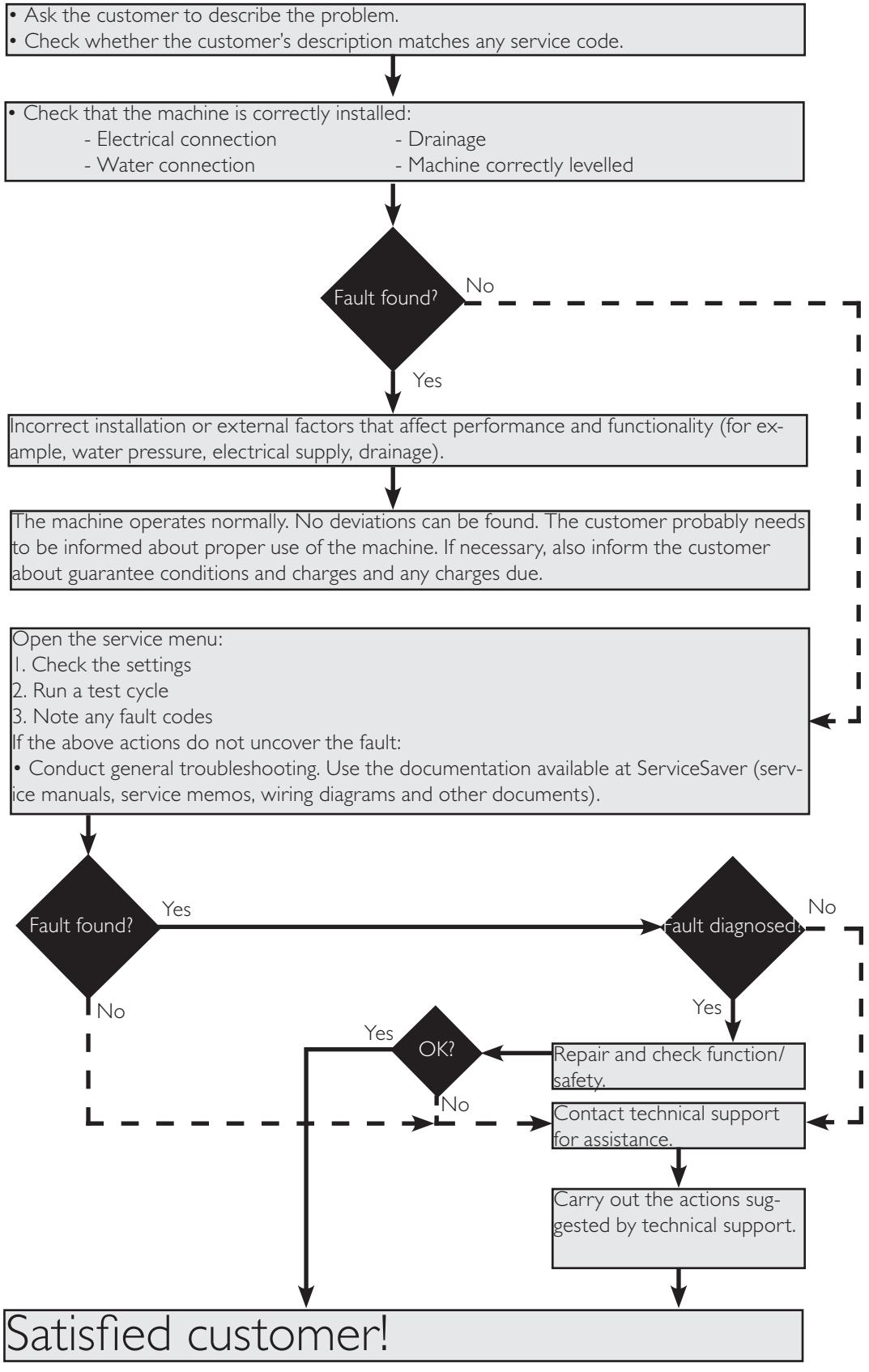


Troubleshooting strategy

At Asko, we believe in always remaining focused on the customer, and as an ASKO service technician, you are one of the most important ambassadors of our brand. As such, it is important that the customer finds the service callout a pleasant experience. Troubleshooting is an important part of the service callout, and as such we have drawn up a troubleshooting strategy that describes, in broad terms and step by step, what you need to do to find and diagnose faults.



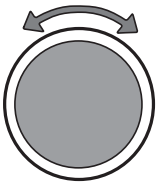
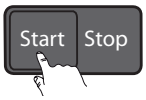
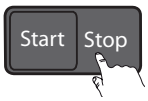
Product overview

TD60.C

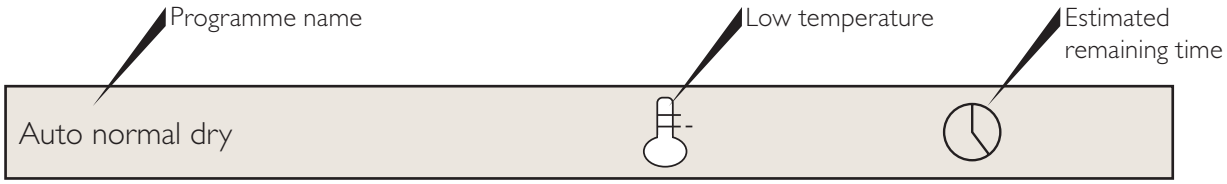
Programmes: A total of 7 programmes.

Settings: 4 settings (Language, Child-safe, Buzzer, Heater 2)

Knob and button descriptions

	Programme selector (J1) Turn clockwise or anti-clockwise to cycle through the different programmes and options in the various menus.
	Start button (S2) • Start programme
	Stop button (S3) • Stop programme (press and hold for 3 seconds).

LCD description



Programme table

Condenser

Programme	Material	Tempe-rature	Max. load (kg)	Energy consump-tion (approx. kWh)		Programme time	
				800 rpm	1600 rpm	800 rpm	1600 rpm
Auto extra dry	Cotton, linen	Auto normal dry	7,0	5,5	4,4	2:30	2:04
Auto dry	Cotton, linen	Auto normal dry	7,0	4,5	3,7	2:02	1:47
*Auto normal dry	Cotton, linen	Auto normal dry	7,0	3,9	3,4	2:00	1:34
Auto extra dry, low tempe-rature	Permanent press, polyester/cotton	Low	3,5	2,8	-	2:01	-
Auto dry, low temperature	Permanent press, polyester/cotton	Low	3,5	2,3	-	1:38	-
Auto normal dry, low tem-perature	Permanent press, polyester/cotton	Low	3,5	2,2	-	1:33	-
Auto iron dry	Cotton, linen	Auto normal dry	7,0	3,7	2,7	2:07	1:37

*Programme tested in accordance with EN 60456/A11/A12/.

Here we present a few examples of the energy and time consumption of a few different programme settings. Consumption can vary depending on room temperature, humidity, load, variations in the power supply and selected options.

The following apply for the specified consumption values:
Temperature of intake air: 23°C
Moisture content of intake air: 55%
Drying temperature: Normal or low
Heater output: 3000 W

Vented

Programme	Material	Tempe-rature	Max. load (kg)	Energy consump-tion (approx. kWh)		Programme time	
				800 rpm	1600 rpm	800 rpm	1600 rpm
Auto extra dry	Cotton, linen	Auto normal dry	7,0	4,4	4,1	2:01	1:55
Auto dry	Cotton, linen	Auto normal dry	7,0	4,1	3,8	1:51	1:45
*Auto normal dry	Cotton, linen	Auto normal dry	7,0	3,5	3,4	1:31	1:30
Auto extra dry, low tempe-rature	Permanent press, polyester/cotton	Low	3,5	2,3	-	1:53	-
Auto dry, low temperature	Permanent press, polyester/cotton	Low	3,5	2,0	-	1:28	-
Auto normal dry, low tem-perature	Permanent press, polyester/cotton	Low	3,5	1,8	-	1:23	-
Auto iron dry	Cotton, linen	Auto normal dry	7,0	3,1	2,8	1:48	1:45

*Programme tested in accordance with EN 60456/A11/A12/.

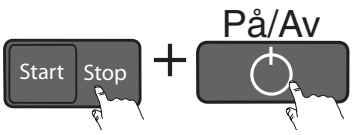
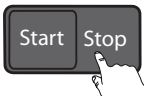
Here we present a few examples of the energy and time consumption of a few different programme settings. Consumption can vary depending on room temperature, humidity, load, variations in the power supply and selected options.

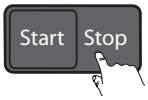
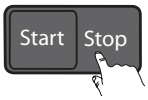
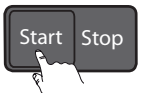
The following apply for the specified consumption values:
Temperature of intake air: 23°C
Moisture content of intake air: 55%
Drying temperature: Normal or low
Heater output: 3000 W

Programme descriptions

Programme designation	Description
Auto extra dry	This programme is for items that are particularly difficult to dry, e.g. jeans with very thick seams.
Auto dry	These programmes shut off the heat once the load is dry but before it is "overly dry". The Auto dry programme shuts off the heat slightly later than Auto normal dry. Use trial and error to find out what works best. Use these programmes when you want items to be completely dry.
Auto normal dry	These programmes shut off the heat once the load is dry but before it is "overly dry". The Auto dry programme shuts off the heat slightly later than Auto normal dry. Use trial and error to find out what works best. Use these programmes when you want items to be completely dry.
Auto extra dry, low temperature	This programme is for items that are particularly difficult to dry, e.g. jeans with very thick seams.
Auto dry, low temperature	These programmes shut off the heat once the load is dry but before it is "overly dry". The Auto dry programme shuts off the heat slightly later than Auto normal dry. Use trial and error to find out what works best. Use these programmes when you want items to be completely dry.
Auto normal dry, low temperature	These programmes shut off the heat once the load is dry but before it is "overly dry". The Auto dry programme shuts off the heat slightly later than Auto normal dry. Use trial and error to find out what works best. Use these programmes when you want items to be completely dry.
Auto iron dry	This programme shuts off the heat once the load is just damp enough for ironing or pressing.

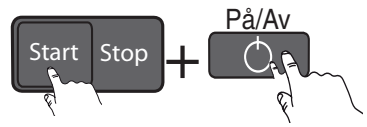
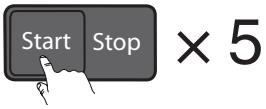
Settings

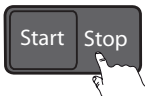
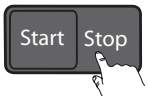
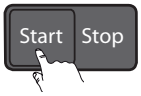
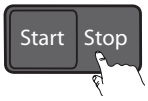
Opening the settings menu	
	Is the machine on? First turn off the power at the main power switch (S1). Press the Stop button (S3) while simultaneously pressing the main power switch (S1).
	Press the Stop button 5 times within 10 seconds. The settings menu now opens.

Choosing a setting		
1		Turn the programme selector (J1) to cycle through the menu options.
2		Press the Stop button (S3) to make a selection.
3		Turn the programme selector (J1) to cycle through the different settings available for this selection.
4		Press the Stop button (S3) to save the setting. Turn the programme selector (J1) to make further selections.
5		Press the Start button (S2) to open the programme menu.

Service menu content		Comments
Language	US English	
	English	
	Svenska	
	Dansk	
	Norsk	
	Suomi	
	Français	
	Deutsch	
	Italiano	
	Espanol	
	Русский	
	Nederlands	
Child-safe	Child-safe Off	You can temporarily disable Child-safe start by pressing "Start" and "Door opening" simultaneously.
	Child-safe On	
Buzzer	Buzzer Off	
	Buzzer On	
Heater 2	Heater 2 Off	
	Heater 2 On	

Service menu

Opening the service menu	
	If the machine is on: First turn off the power at the main power switch (S1). Press and hold the Start button (S2) while simultaneously pressing the main power switch (S1).
	Press the Start button (S2) 5 times within 5 seconds. The service menu now opens (shown on LCD display).

Navigating the service menu		
1		Press the Stop button (S3) to cycle through the service menu options.
2		Turn the programme selector (J1) to cycle through the different settings available for a selection.
3		Press the Stop button (S3) to select a setting.
4	 or 	Press the Start button (S2) to save the setting and return to the programme menu. or Press the Stop button (S3) to save the setting and return to the service menu.

Service menu content

SP	SP:		Date the software was programmed (Year_Week)
	CM:		Date of manufacture of the control unit (Year_Week)
	SW:		Software version
	NCP0:		Total number of cycles run
	NCP1:		Number of cycles for Programme 1
	NCP2		Number of cycles for Programme 2
	NCP3:		Number of cycles for Programme 3
	NCP4:		Number of cycles for Programme 4
	NCP5:		Number of cycles for Programme 5
	NCP6:		Number of cycles for Programme 6
	NCP7:		Number of cycles for Programme 7
	Press the Stop button (S3) to continue.		
Fault	Fault 1		If the machine has a fault the type of fault is displayed.
	Fault 2		
	Fault 3		
Test	Motor		
	Heater 1		
	Heater 2		
	Drain		
	Buzzer		
	Press the Stop button (S3) to continue.		
Dry level	0		Drying time not extended.
	+5		Drying time extended by 5 min.
	+10		Drying time extended by 10 min.
	+15		Drying time extended by 15 min.
	+20		Drying time extended by 20 min.
Block Programs	Auto extra dry	Off	Use the Stop button (S5) to toggle between On and Off.
		On	
	Auto dry	Off	
		On	
	Auto normal dry	Off	
		On	
	Auto extra dry, low temperature	Off	
		On	
	Auto dry, low temperature	Off	
		On	
	Auto normal dry, low temperature	Off	
		On	
	Auto iron dry	Off	
		On	
Coin	Off		
	On		
Filter	Off		Detects whether the filter is blocked.
	On		

Filter interval	0	Sets the display interval for "Clean Lint Filter". 0 = no display, 1 = display every programme etc.
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
Condenser interval	0	Sets the display interval for "Clean condenser". 0 = no display, 1 = display every 100 programmes etc.
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
Total Reset		Resets all settings to factory defaults.

Fault indicators

Error message	Cause	Action
Over Flow	• A micro switch is opened when a full condensed water tank is detected. Detection begins 30 seconds after the programme starts. If the micro switch is open >30 seconds the programme cycle is stopped.	• Check that the customer has emptied the tank and restarted the machine. • Clean hoses and check voltage and resistance of drainage pump. • Check that the float has not got "stuck" and check the function of the micro switch.
Max program time	• The programme cycle time exceeds 200 minutes. The cycle is stopped and the programme is reset. • High ambient temperature combined with low heater output and low drying temperature causes condensation to form. • Poor condensing due to blocked external air.	• Tried spinning at a higher speed. • Had the machine switched off for 30 minutes before restarting. • Good ventilation in the room. • Ensure that the external air has free passage.
Clean filter	• Indicated when the air flow and temperature do not match.	• Clean the filter.
Clean condenser	• Displayed automatically every 100 cycles. • Displayed if the machine has indicated "Clean filter" twice in a row.	• Clean condenser and filter. • Clean other air passages.
Thermistor fault	• Thermistor circuit open. • Thermistor malfunction.	• Check the thermistor.

Components and measurement values

Item number	Component	Measurement value	Comment
80 618 24	Motor 50 Hz, 220/240 V	Primary winding: 23.8 Ω Auxiliary winding: 28.1 Ω Current: 1.1 A; 270 W; 2850 rpm	
80 618 95	Motor 60 Hz, 220/240 V	Winding resistance: cable colour grey-blue 25.5 Ω cable colour grey-red 16.0 Ω Current: 0.9 A; 200 W; 3300 rpm	The motor is a 2-pin motor and is directly connected to the fan for internal air and gearing for driving the cylinder. On condenser dryers, the motor also drives the fan for external air.
73 829 92	Capacitor 6 µF		The capacitor is mounted on the motor.
80 546 40	Capacitor 4 µF		
88 011 94	Condensing water pump 25 W	111 Ω	
80 762 02 80 844 11	EMC filter		The filter eliminates interference to and from the machine.
80 833 44	Thermistor	40–60 kΩ (at room temperature 20–30°C)	The thermistor controls temperature regulation. If the thermistor is short-circuited or detaches from the control unit, the programme is stopped.
80 773 85 80 796 00	Thermostat/overheating cut-out (150°C automatic) Thermostat/overheating cut-out (135°C automatic)		The thermostat/overheating cut-out stops the programme if the temperature becomes too high.
80 738 36	Door switch		The front door triggers a door switch, which stops the programme when the door is open. If the door has been opened and closed during the programme the machine must be restarted using the start/stop button.
80 761 03	Overflow cut-out		If both tanks are full the programme is stopped by a float switch installed in the lower tank. Over flow is indicated on the display.
	Electrical connection		The machine is delivered as single phase and can be switched between 1950 W, 10 A and 2500 W, 16 A. The buttons are used to switch between 1950 W / 10 A and 2500 W / 16 A via the software.
8080604	Control unit		
80 832 20	Heating element 2500 W	Heater 1: 1950 W, 24.5 Ω Heater 2: 550 W, 91.4 Ω	
80 829 32	Heating Element 3000W	Heater 1: 1950 W, 24.5 Ω Heater 2: 1050 W, 45.3 Ω	

Technical data

Height:	850 mm
Width:	595 mm
Depth:	585 mm
Weight:	39 kg (vented) 47 kg (condenser)
Cylinder volume:	111 l
Max. load capacity:	EU 7.0 kg US/AU 6.0 kg
Speed:	52 rpm
Rated power:	1950 W = 10 A 2500 W = 16 A 3000 W = 16 A The buttons are used to switch between 10 A and 16 A via the software.
Drum material:	Stainless steel
Outer panels:	Powder-coated and hot-galvanised sheet steel or stainless steel
Installation:	Stacked or freestanding
Protection class:	IP X4

Wiring diagram