

Rotary switches 70 RT Range

Rotary switches for control and emergency applications, from 16 to 160A



70 RT

Product Guide

Introduction

This 70 RT range product guide aims at supporting our clients and customers in evaluating the product features range and technical characteristics of the 70 RT rotary switches range from GEWISS.

70 RT range is described in the following chapters:

- ✓ **Chapter 1:** technical specifications and general overview on the whole range and main features of products
- ✓ **Chapter 2:** Communication support
- ✓ **Chapter 3:** application examples.

Rotary switches 70RT - Product Guide

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- General description and main features
- Product Range
- Technical drawings

2. Communication support

- Communication
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3. Applications

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Technical specifications

The range:

The range of rotary switches is available in two different applications types:

1) Surface-mounting rotary switches for command and emergency – IP65:

- in insulating box (from 16 A to 63 A);
- in metal box (from 16 A to 160 A);

2) Rotary switches for distribution boards:

- versions for boards (from 16 A to 63 A);
- versions for fixing on DIN rail (from 16 A to 63 A);

The range is available in two-pole, three-pole and four-pole versions.

Rotary switches for command and emergency from 16A to 160A: in “emergency” version switches have a lockable red and yellow handle while the “command” version have a black knob.

Reference Standards:

IEC 60947-3

Applications:

GEWISS's rotary switches are used for all interlocked switched socket-outlets. Also in the heaviest duty categories, such as AC3 and AC23, the switches offer excellent electrical performance by guaranteeing, moreover, a greater robustness and a longer lifespan.

Furthermore, the products of the 46 QP and 44 CEP range offer a total synergy with the versions for board and door locking with red and yellow emergency handle.

These switches are used in the manufacturing and services industry, as indicated in the table below:

	DOMESTIC	TERTIARY	INDUSTRIAL
Surface-mounting control	Technical rooms: - switching on lights - motor control Open places: - switching on lights	Technical rooms: - motor, pump and valve control -general services -air conditioning Warehouses and garages: - shutter opening -switching on lights/fans -air conditioning	Production areas: -control of machines, handing systems, mills and mixers, air conditioning Technical rooms: -control of motors, pumps, valves, generators and compressors -automation boards -air conditioning
Surface-mounting emergency		Emergency switch	
Emergency automation boards		Emergency switch	Board-mounting
Control on 50022 EN rail	Main switch	Main switch	

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Structural Characteristics:

ROTARY SWITCHES IN IP 65 THERMOPLASTIC ENCLOSURE

High impact resistance, self-extinguishing thermoplastic material.

IP degree: 65

Cable entry: knock out

Surface-mounting using fixing brackets or from the inside with pass-through screws .

Rotary switches can be padlocked with 3 locks in the OFF position (command and emergency versions) and one in the ON position (only command versions).

ROTARY SWITCHES IN DIE CAST ALUMINIUM ENCLOSURE

High impact resistance, box in die-cast aluminium alloy metallised grey.

IP degree: 65

Cable entry: threaded

Fixing to wall by hook incorporated in the enclosure base.

Rotary switches can be padlocked with 3 locks in the OFF position (command and emergency versions) and one in the ON position (only command versions).

Note:70RT switches in Metal boxes are largely used in Middle East countries; therefore boxes dimensions were studied in accordance with market specifications. The dimensions allows termination of armored cables, the standard practice in many gulf markets.

GEWISS offer:

SURFACE-MOUNTING ROTARY SWITCHES – IP65

Rated current	Poles	Image	Insulating		External dimensions (mm)	Image	Metal		External dimensions (mm)
			Command	Emergency			Command	Emergency	
16A	2		GW 70 401	GW 70 431	114x114x71.5		GW 70 531	GW 70 561	140.6x165.6x97
	3		GW 70 402	GW 70 432	114x114x71.5		GW 70 532	GW 70 562	140.6x165.6x97
	4		GW 70 403	GW 70 433	114x114x71.5		GW 70 533	GW 70 563	140.6x165.6x97
32A	2		GW 70 404	GW 70 434	114x114x71.5		GW 70 534	GW 70 564	140.6x165.6x97
	3		GW 70 405	GW 70 435	114x114x71.5		GW 70 535	GW 70 565	140.6x165.6x97
	4		GW 70 406	GW 70 436	114x114x71.5		GW 70 536	GW 70 566	140.6x165.6x97
40A	2		GW 70 413	GW 70 441	114x114x71.5		GW 70 537	GW 70 567	140.6x165.6x97
	3		GW 70 414	GW 70 442	114x114x71.5		GW 70 538	GW 70 568	140.6x165.6x97
	4		GW 70 415	GW 70 443	114x114x71.5		GW 70 539	GW 70 569	140.6x165.6x97
63A	3		GW 70 407	GW 70 437	170x170x96		GW 70 540	GW 70 570	214.8x251.8x126.7
	4		GW 70 408	GW 70 438	170x170x96		GW 70 541	GW 70 571	214.8x251.8x126.7
80A	3		-	-	-		GW 70 542	GW 70 572	214.8x251.8x126.7
	4		-	-	-		GW 70 543	GW 70 573	214.8x251.8x126.7
100A	3		-	-	-		GW 70 544	GW 70 574	214.8x251.8x126.7
	4		-	-	-		GW 70 545	GW 70 575	214.8x251.8x126.7
125A	3		-	-	-		GW 70 546	GW 70 576	307.2x257.2x171.6
	4		-	-	-		GW 70 547	GW 70 577	307.2x257.2x171.6
160A	3		-	-	-		GW 70 548	GW 70 578	307.2x257.2x171.6
	4	-	-	-	GW 70 549	GW 70 579	307.2x257.2x171.6		

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ROTARY SWITCHES FOR DISTRIBUTION BOARDS

Rated current	Poles	No. DIN EN 50022 modules	Adjustment field (mm)	Version for boards		Pack / carton	Version for fixing on DIN rail		Pack / carton	
										
16A	2	3	87 - 145		GW 70 001	1/10		GW 70 201	1/30	
	3				GW 70 002			GW 70 202		
	4				GW 70 003			GW 70 203		
32A	2	4			GW 70 004			1/24		GW 70 204
	3				GW 70 005					GW 70 205
	4				GW 70 006					GW 70 206
63A	3	5	GW 70 007	1/5	GW 70 207	1/12				
	4		GW 70 008		GW 70 208					

Characteristics: the regulation field can be obtained by cutting the shaft supplied. Correctly installed, it ensures IP65 protection rating.

COMPLEMENTARY ITEMS

Code	Description	Adjustment field	Pack / carton
GW 70 009	Adjustable extension brackets in galvanised steel for rear fixing, complete with self-tapping screws - set of 4 brackets	117 - 305mm (16/32A) 144 - 337mm (63A)	1/10
GW 70 409	Lockable red knob with yellow flange for emergency 16-32-40A		1/20
GW 70 410	Lockable red knob with yellow flange for emergency 63-80-100A		1/18

GW70009: the regulation field can be obtained by cutting the shafts supplied and the extension brackets at the reference shown.

Rotary switches in isolating material : 16 ÷ 63 A

General features



SURFACE MOUNTING COMMAND VERSION

Switches in watertight , double-isolating environment can be mounted also in set by means of watertight coupler (GW26406). The bottom can be reversed thus easing mounting in all positions.

SURFACE MOUNTING EMERGENCY VERSION

Emergency rotary switches are lockable in ON position to prevent misusing. Double isolating case is granted by screwcaps (already supplied) or by fixing brackets (GW44621).



Fixing brackets

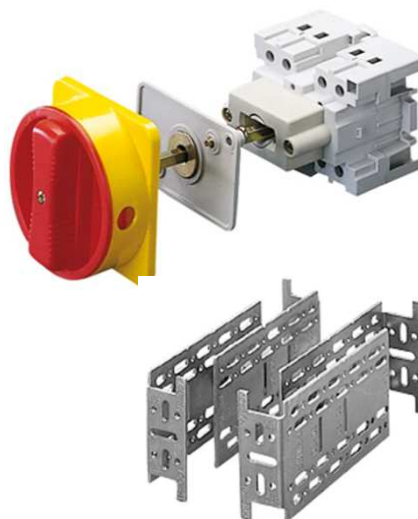


COMMAND ROTARY SWITCHES FOR DISTRIBUTION BOARDS

Thanks to its modular shape and to EN 50022 DIN rail, they can be used in distribution boards or enclosures to control equipments and circuits.

VERSION FOR DOOR LOCKING

They can be used as general switches for distribution and automation panels, by granting IP65 protection degree. Extension brackets may regulate mounting depth.



Extension brackets

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Rotary switches in Die Cast Aluminium: 16 ÷ 160 A

General features



COMMAND AND EMERGENCY VERSION

Metal rotary switches in waterproof box may have many installation solutions: motors, pumps, valves and are available both for command and emergency.

WALL FIXING HOOK

They can be easily wall-locked through 4 external hooks avoiding box opening thereby ensuring the IP rating.



Cable Entry

Metal boxes are equipped with cable entry on the sides. In the following technical drawings and tables dimensions and features for each single code is provided

PADLOCKING

Knob may be locked in OFF position to secure system.



Sample: GW70549 (160A)

HORIZONTAL SHAPE

125 and 160A metal versions have horizontal shape thus easing the introduction of large-size cables, often armored (hard bending).

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Rotary switches in Die Cast Aluminium: 16 ÷ 160 A

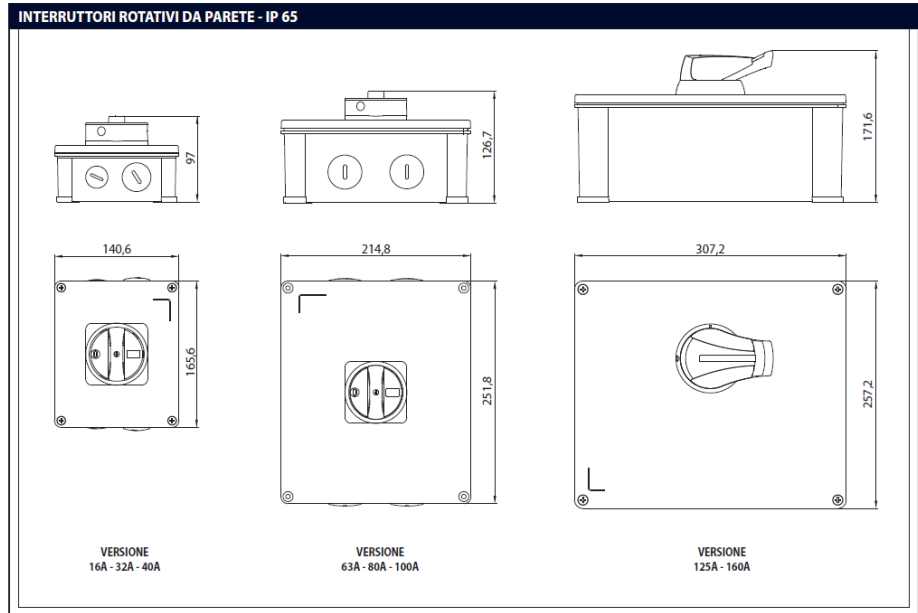
Key differentiator :

best in class dimensions & cabling space



SURFACE-MOUNTING ROTARY SWITCHES IN METAL BOX-IP65

Nominal current (A)	Ext. Dimensions BxHxP (mm)
16	140,6x165,6x97
32 and 40	140,6x165,6x97
63, 80 and 100	214,6x251,8x126,7
125 e 160	307,2x257,2x171,6



HORIZONTAL SHAPE

125 and 160A versions have horizontal shape thus easing the introduction of large-size cables, often armed (hard bending).

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Product Range - technical data

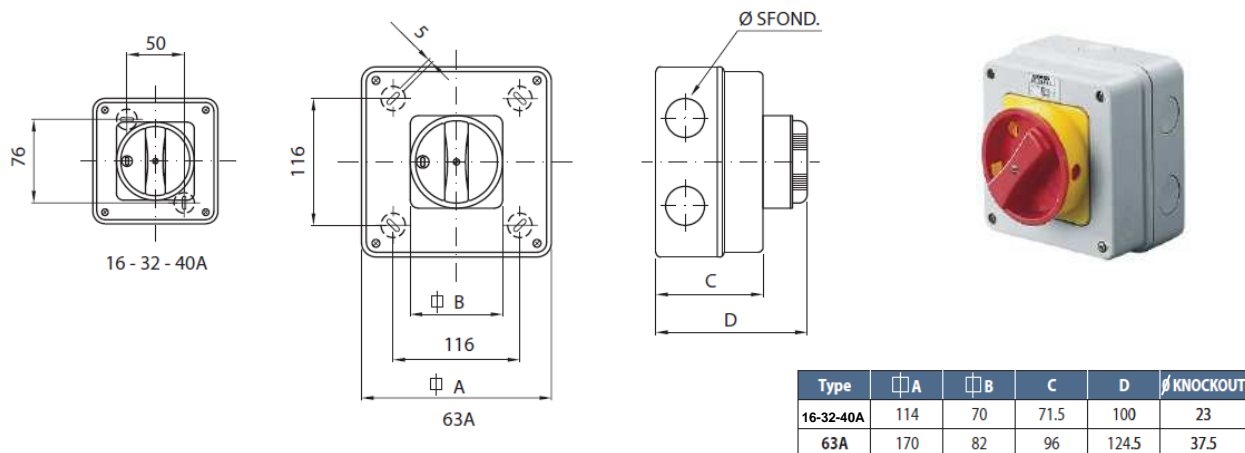
TECHNICAL DATA AND COMPLIANCE WITH STANDARDS									
		16A	32A	40A	63A	80A	100A	125A	160A
Reference Standard		IEC 60947-3							
Current thermal rating I _{th} in air	A	16	32	40	63	80	100	125	160
Current thermal rating I _{the} in case	A	16	32	40	63	80	95	120	160
Nominal operating voltage U _e	V	400	400	400	500	400	400	500	500
Nominal insulating voltage U _i	V	690	690	690	690	800	800	800	800
Nominal operating current I _e AC-21 A	A	16	32	40	63	80	95	120	160
Nominal operating power									
Usage category AC-3 A Caged motors: starting, stopping motor during rotation	3 x 400V kW	5	10	12	19	25	29	20	50
Usage category AC-23 A Control of motors or other highly inductive loads	3 x 400V kW	7	14	18	28	36	42	28	72
Nominal breaking capacity AC-23A cos φ = 0,45	3 x 400V A	160	320	400	630	800	950	1200	1600
Protection against short-circuit									
Nominal short-circuit current conditioned by fuse	kA _{eff}	10	10	6	10	50	15	50	50
Maximum fuse current (gG)	A	16	32	40	63	80	100	125	160
Nominal brief current I _{cw} (1-s-current)	A _{eff}	500	750	750	1200	1500	1500	2500	4000

Type of device		Terminal clamping capacity (mm ²)			
no. poles	In (A)	Rigid cables		Flexible cables	
		MAX	MIN	MAX	MIN
2-3-4	16	4	1.5	2.5	1.5
2-3-4	32	10	1.5	6	1.5
2-3-4	40	10	1.5	6	1.5
3-4	63	25	2.5	16	1.5
3-4	80				
3-4	100				
3-4	125				
3-4	160				

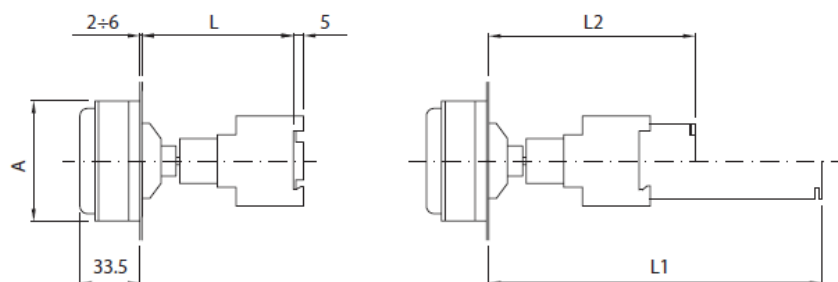
Note: isolating material versions from 16A to 63A; metal material versions from 16A to 160A.

Technical drawings: plastic version

SURFACE-MOUNTING ROTARY SWITCHES IP 65



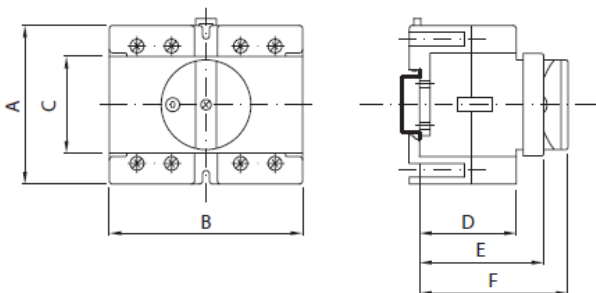
BOARD-MOUNTING ROTARY SWITCHES: DOOR-LOCKING VERSION



One-way switch	WITHOUT BRACKETS		WITH BRACKETS		A
	Supplied with L	Adjustable up to L*	L1 max length obtainable	L2 min length obtainable**	
16A	145	87	(145+160) 305	(87+30) 117	∅ 70
32A	145	87	(145+160) 305	(87+30) 117	∅ 70
63A	177	114	(117+160) 337	(114+30) 144	∅ 82

* Position obtainable by cutting the shaft supplied.
 ** Position obtainable by cutting both the shaft supplied, and the brackets, in the points shown.

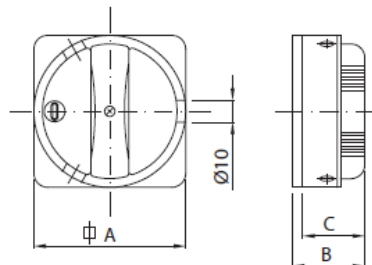
BOARD-MOUNTING ROTARY SWITCH: VERSION FOR ASSEMBLY ON DIN RAIL EN 50022



Type	A	B	C	D	E	F
16A	52	53 ★	45	35	53	68
32A	55	71 ●	45	37	53	68
63A	73	89 ▲	45	44	56	68

★ Occupies 3 modules (17.5mm). ● Occupies 4 modules (17.5mm). ▲ Occupies 5 modules (17.5mm).

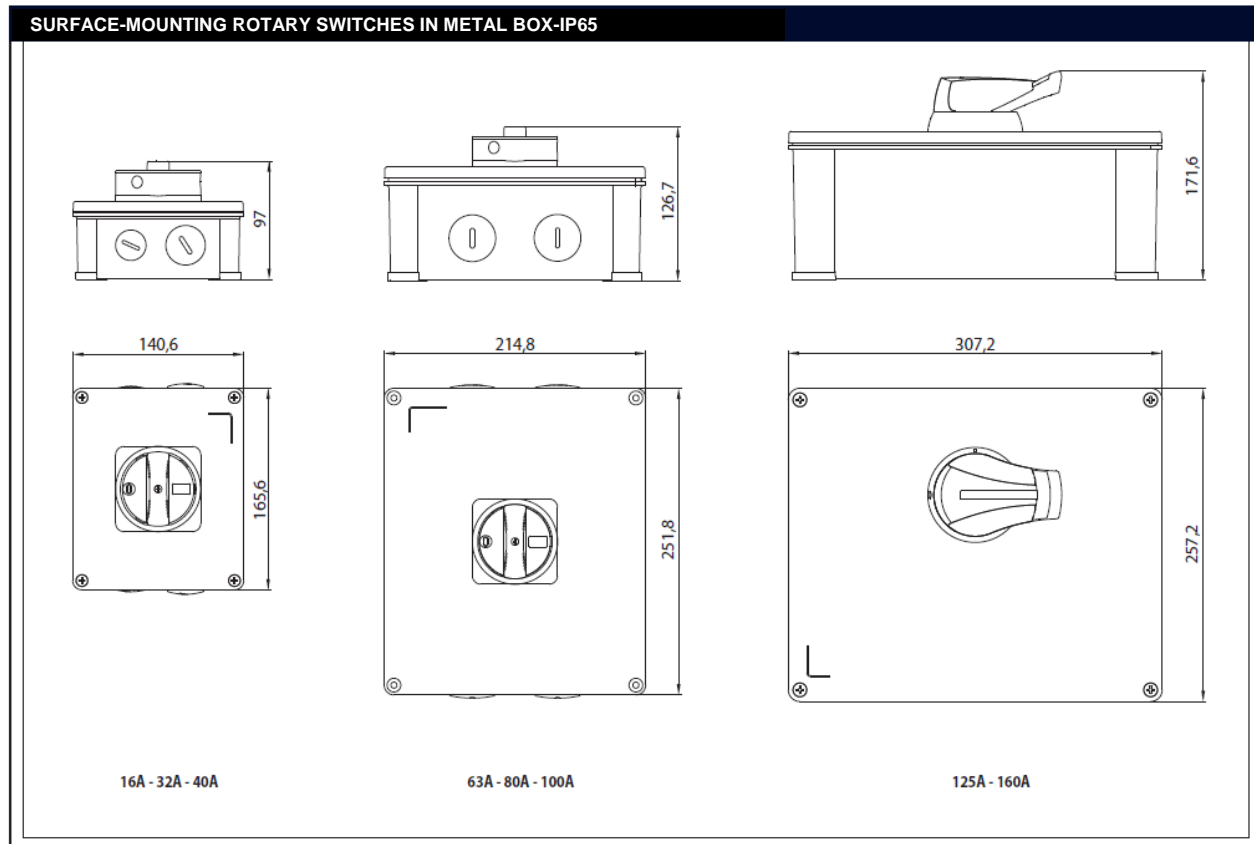
LOCKABLE RED KNOB WITH YELLOW FLANGE FOR EMERGENCY



Type	□ A	B	C
16-32A	70	33.5	28.5
63-80-100A	82	33.5	28.5

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Technical drawings: metal version



The following chart shows position and diametre of box holes to be applied to metal version:

Nominal current (A)	Ext. Dimensions BxHxP (mm)	Upper side diam. (mm)	Lower side diam (mm)
16	140,6x165,6x97	2xM20	2xM20
32 and 40	140,6x165,6x97	1xM20 + 1xM25	1xM20 + 1xM25
63, 80 and 100	214,6x251,8x126,7	2xM32	2xM32
125 e 160	307,2x257,2x171,6	No hole	No hole

HORIZONTAL SHAPE

125 and 160A versions have horizontal shape thus easing the introduction of large-size cables, often armed (hard bending).

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Communication support

WEBSITE

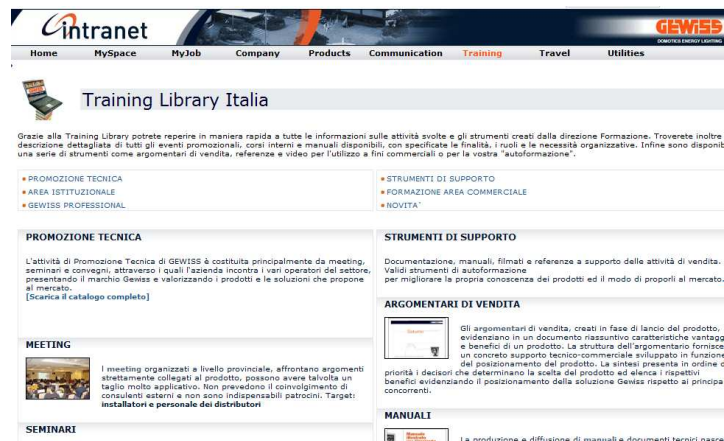
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Specifically, customs may easily download catalogues and free softwares, a powerful support to estimate prices and to design installations.



TRAINING LIBRARY

Training tools are available in e-format enabling our sales force to receive on-line information about products, promotional events, training sessions.



APPLICATION EXAMPLES

Here are some typical applications of 70RT range

Sectors

- Tertiary
- Industrial
- Heavy Industry



Applications

- automations
- handling units
- motor control
- pumps and valves command
- light control
- emergency
- air conditioning
- ...



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Product guide

This document is intended only for internal use.