

Illuminated Pushbutton and Pushbutton Switch



LT 1879 / LT 2479

LS 1879 / LS 2479



The products described in this brochure are intended for industrial use and meet the requirements laid down by the EU directive 73/23/EU (issued by the Council for Coordination of the Regulations of EU Member Countries regarding the electrical equipment for use within certain voltage limits, revised by directive 93 / 68 EU issued by the council).

The contents may be subject to modification for the purpose of technical improvement. The general regulations applicable to installation and commissioning must be observed. No warranty can be accepted.

Contents	Page
Application	4
Design	4
Switching Elements	4
Collars	4
Illumination	4
Mounting	4
Technical Characteristics	5
Diagrams	6
Collars, Filament Lamps and LED Complement	8
Dimension Drawings	9

Application

The illuminated pushbuttons and pushbutton switches of the series "79" have been developed for the use in Mauell's M 18 and M 24 mosaic systems. Depending on the switching elements used the devices can be employed for the direct switching of relays or automatic control processes, the activation of electronic modules as well as the connection and disconnection of control, closed-loop control and measuring circuits.

Design

The enclosed switching elements and the switching plunger are inserted in a robust plastic case together with the lamp or LED adapters. The collar carrier with the collar is clipped on to the switching plunger. Collar carrier and collars are connected by means of a snap-on locking mechanism so that they can be easily replaced. The illuminated pushbuttons and pushbutton switches come in an enclosed case with a multi-core cable and plug connector and are completely wired up.

Switching Elements

The device types -01 to -04 have double-break snap-action mechanisms with gold-plated silver contacts. A maximum of 4 NO and 4 NC contacts is possible. The device types -11 to -13 are equipped with low-level switching elements, specially developed for the activation of electronic modules. These switching elements offer the advantage of a high switching reliability at the microampere and microvolt level, a long service life, a highly constant contact resistance, and a practically bounce-free operation.

They have single-break momentary contacts with 4-fold pick-off. Available are either 1 NO and 1 NC contact, or 2 NO and 2 NC contacts.

Collars

Square or round collars of 15 mm or 9 mm, available as illuminated or non-illuminated version and in different colours.

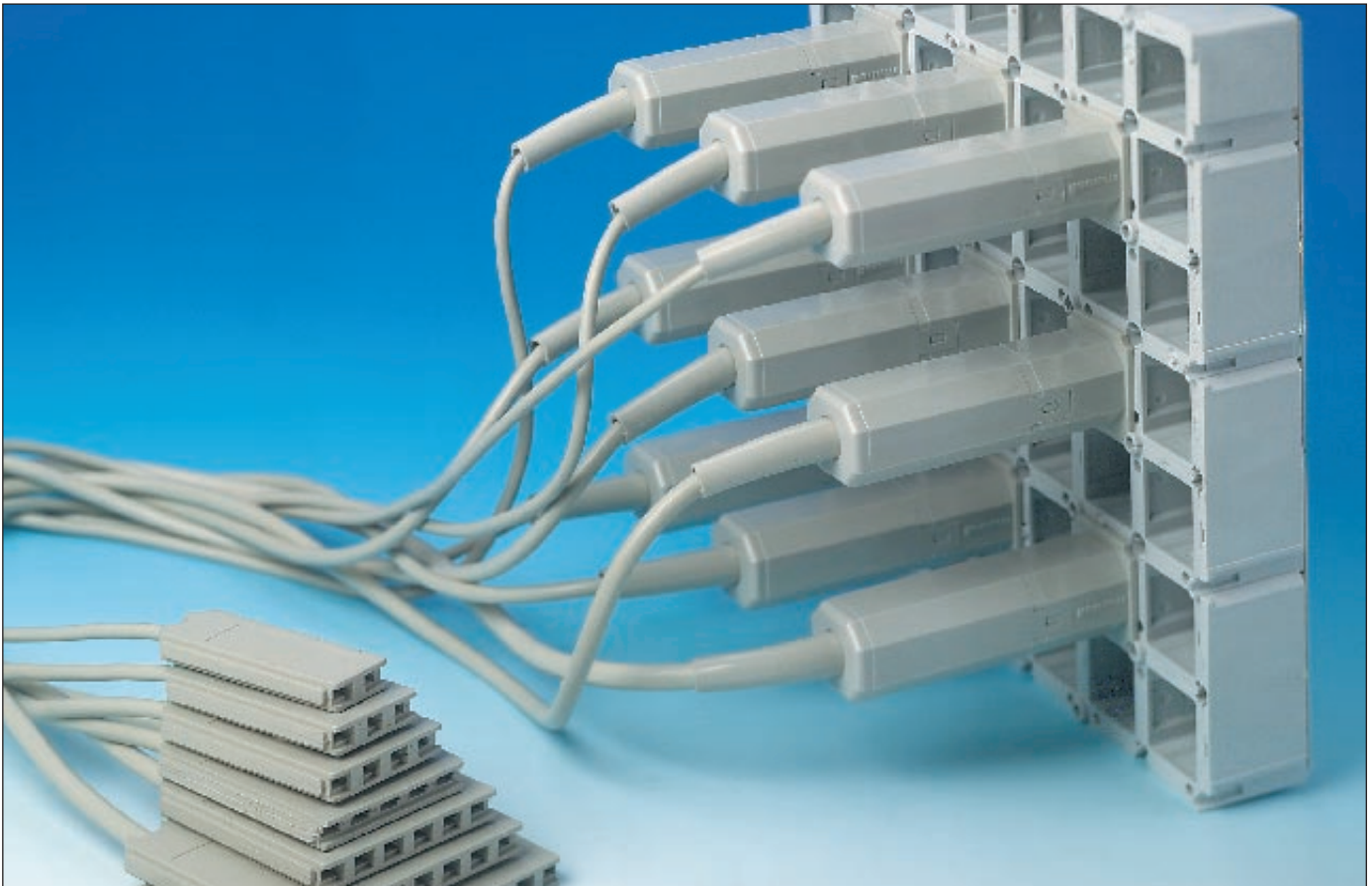
Illumination

Devices of the "18" series can be equipped with one filament lamp or one LED with T 5.5 cap. Devices of the "24" series can be equipped with one filament lamp or one LED with T 6.8 cap, or two filament lamps or two LEDs with T 5.5 cap.

If LEDs are used, we recommend the use of clear collars. Collars and lamps can be accessed from the front for easy replacement even if the device is already installed.

Mounting

The devices are simply inserted from the rear in the standard squares of the mosaic board and then locked with the front tiles.



Mosaic panel mounting, rear view

Technical Characteristics

Type of protection	Housing: IP 40 Solder connections: IP 00
Test voltage	2.000 V AC, 1 min.
Snap-action mechanism	1.000 V AC, 1 min.
Rated insulation voltage	acc. to VDE 0110
Snap-action mechanism	250 V, insulation group B (with cable and plug: 110 V DC / 125 V AC)
Low-level element	60 V, insulation group B
Switching capacity	5 A at 220 V, $\cos \varphi = 1$ 3 A at 220 V $\cos \varphi = 0.3$ ind.
Snap-action mechanism	Direct voltage, non-inductive V 24 48 60 125 250 A 4 2 1.5 0.5 0.25 Direct voltage L/R = 30 ms V 24 48 60 125 250 A 2 1 0.7 0.2 0.1
Low-level element	100 mA, 50 V AC, 72 V DC
Contact pressure	0.3 N approx.
Snap-action mechanism	0.4 N approx.
Low-level element	
Contact material	Silver with 10 μ m gold plate
Snap-action mechanism	Bronze with 5 μ m gold plate
Low-level element	
Contact resistance	15 m Ω
Low-level element	

Mechanical life	
Snap-action mechanism	2 x 10 ⁶ operations
Low-level element	5 x 10 ⁶ operations

The devices are supplied with multi-core plastic-insulated cables (2.20 m length) and multipole plug connectors for the connection to terminal blocks according to our brochure "Cables with Plug Connectors, Terminal Blocks". For other types of connection, the devices can be supplied without cables and an open case to allow access to the terminals.

Collar Colours

Illuminated	Clear, white, red, yellow and blue
Non-illuminated	Black, white, anthracite and grey

Filament Lamps

With T 5.5 cap							
	24 V	28 V	30 V	48 V	60 V	70 V	
Clear	1.2W	0.6W	1.2W, 0.6W	1.2W	1.2W	1.4W	
Red	1.2W	1.2W	1.2W	1.2W	1.2W		
With T 6.8 cap							
	24 V	28 V	30 V	48 V	60 V	70 V	
Clear	1.2W	1.2W	1.2W	1.2W	1.2W	1.4W	
Red	1.2W	1.2W	1.2W	1.2W	1.2W	1.4W	
Yellow	1.2W	1.2W	1.2W	1.2W	1.2W		
Green							1.2W 1.4W

LEDs

With T 5.5 or T 6.8 caps	
12 V, 12.5 mA	Red, green or yellow (red/green through reversion)
24 V, 12.5 mA	Red, green or yellow (red/green through reversion)

Accessories

Lamp extractor	For lamps and LEDs
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Diagrams

LT 1879-01
LT 2479-01

LS 1879-01
LS 2479-01

Diagram No.	a b	1 2	3 4	Number of cable cores						Contact Designation to DIN 41020	
				2	3	4	5	6	8		
101			a b		X						1
104	a b		c d			X					⊗ 1
108	a b	c d	e				X				⊗ 21

LT 1879-02
LT 2479-02

LS 1879-02
LS 2479-02

Diagram No.	a b	1 2	3 4	1 2	3 4	Number of cable cores						Contact Designation to DIN 41020	
						4	5	6	8	10	16		
101			a b		c d		X						1/ 1
106	a b		c d		e f			X					⊗ 1/ 1
115	a b	c d	e	f g	h				X				⊗ 21 21

LT 1879-03
LT 2479-03

LS 1879-03
LS 2479-03

Diagram No.	a b	1 2	3 4	1 2	3 4	1 2	3 4	Number of cable cores						Contact Designation to DIN 41020
								5	6	8	10	16	20	
101			a b		c d		e f		X					1/ 1/ 1
108	a b		c d		e f		g h			X				⊗ 1/ 1/ 1
124	a1 b1	c1 d1	e1	f1 g1	h1	a2 b2	c2				X			⊗ 21 21 21

LT 1879-04
LT 2479-04

LS 1879-04
LS 2479-04

Diagram No.	a b	1 2	3 4	1 2	3 4	1 2	3 4	1 2	3 4	Number of cable cores						Contact Designation to DIN 41020
										5	6	8	10	16	20	
101			a b		c d		e f		g h		X				1/ 1/ 1/ 1	
110	a b		c d		e f		g h		i k			X			⊗ 1/ 1/ 1/ 1	
119		a1 b1	c1	d1 e1	f1	g1 h1	a2 b2	c2	d2				X		21 21 21 21	
135	a1 b1	c1 d1	e1	f1 g1	h1	a2 b2	c2	d2 e2	f2				X		⊗ 21 21 21 21	

LT 2479-01 LS 2479-01						Number of cable cores							Contact Designation to DIN 41020		
Diagram No.	a c b		1 3 2 4												
204	a b	c		d e							X			⊗ ⊗	1
205	a b	c		d f								X		⊗ ⊗	21

LT 2479-02 LS 2479-02						Number of cable cores							Contact Designation to DIN 41020		
Diagram No.	a c b		1 3 2 4		1 3 2 4										
206	a b	c		e f		g h					X			⊗ ⊗	1/ 1
215	a b	c		e f	g i	h k						X		⊗ ⊗	21 21

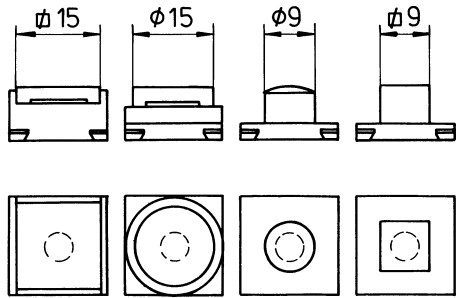
LT 2479-03 LS 2479-03										Number of cable cores							Contact Designation to DIN 41020		
Diagram No.	a c b		1 3 2 4		1 3 2 4		1 3 2 4												
208	a b	c		e f		g h		i k				X				⊗ ⊗	1/ 1/ 1		
224	a1 b1	c1		f1 g1		a2 b2		f2 g2					X			⊗ ⊗	21 21 21		

LT 2479-04 LS 2479-04												Number of cable cores							Contact Designation to DIN 41020			
Diagram No.	a c b		1 3 2 4		1 3 2 4		1 3 2 4		1 3 2 4													
210	a1 b1	c1		e1 f1		g1 h1		e2 f2		g2 h2				X			⊗ ⊗	1/ 1/ 1/ 1				
235	a1 b1	c1		d1 e1	f1	g1 h1	a2 c2	b2 d2		e2 f2	g2			X			⊗ ⊗	21 21 21 21				

Low - Level LT 1879-13 LS 1879-13 LT 2479-13 LS 2479-13						Number of cable cores							Contact Designation to DIN 41020		
Diagram No.	a b		1 3 2 4												
106	a b		c d	e f								X		⊗	2-1

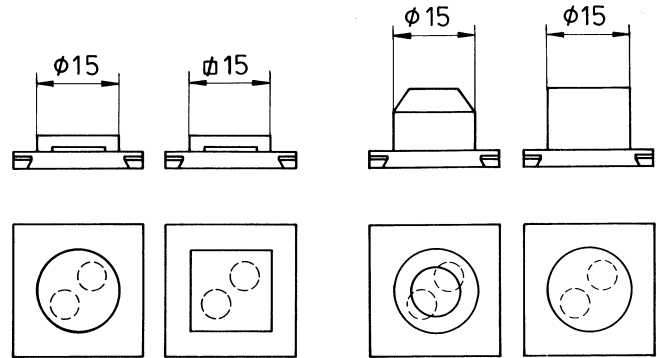
Low - Level LT 2479-13 LS 2479-13						Number of cable cores							Contact Designation to DIN 41020		
Diagram No.	a b		1 3 2 4												
206	a b	c		e f	g h							X		⊗ ⊗	2-1

LT/LS 1879

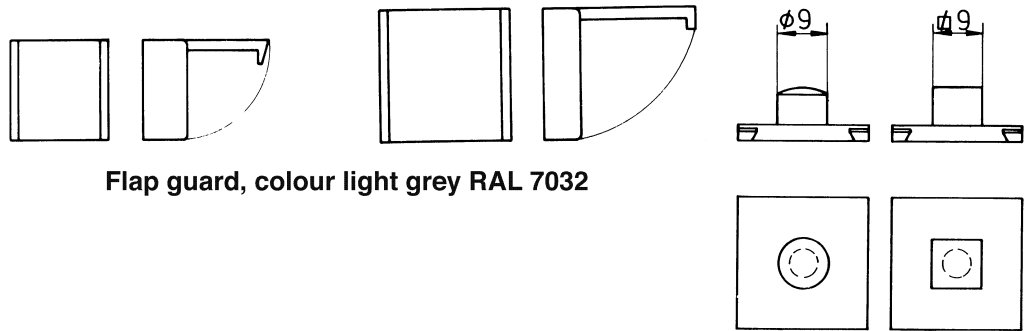


1 Socket T 5.5

LT/LS 2479



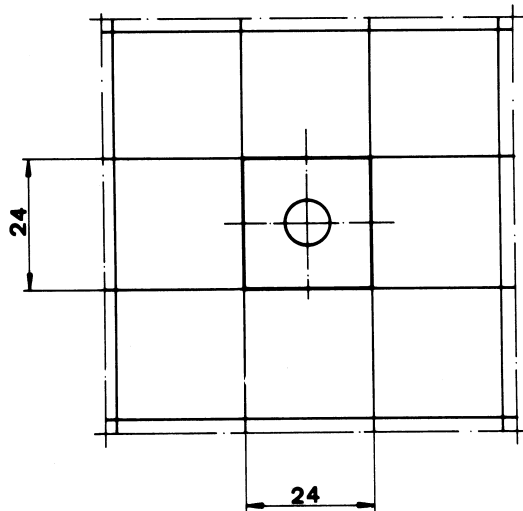
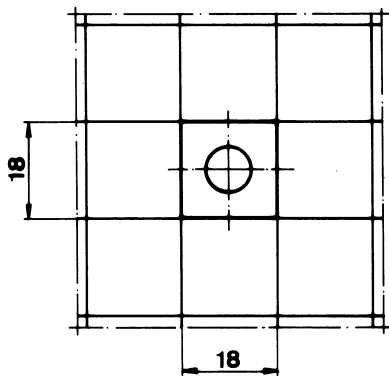
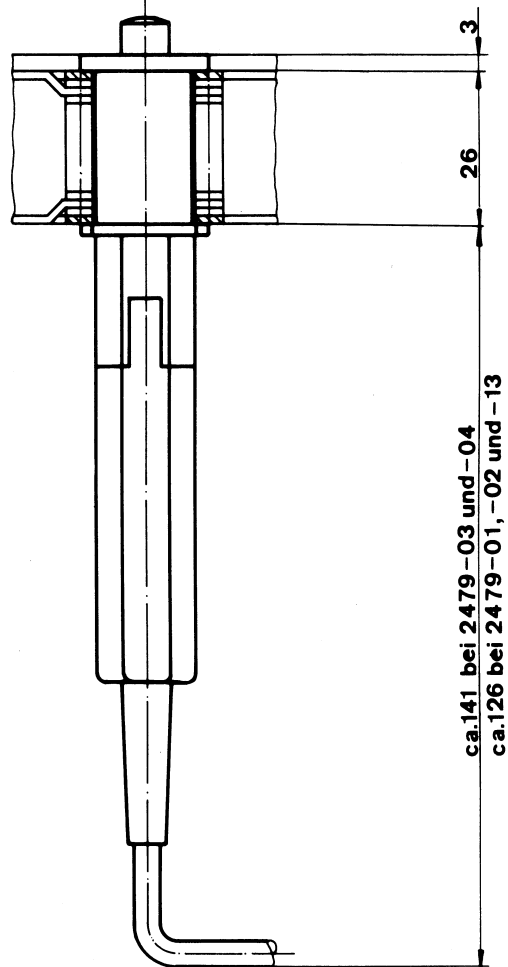
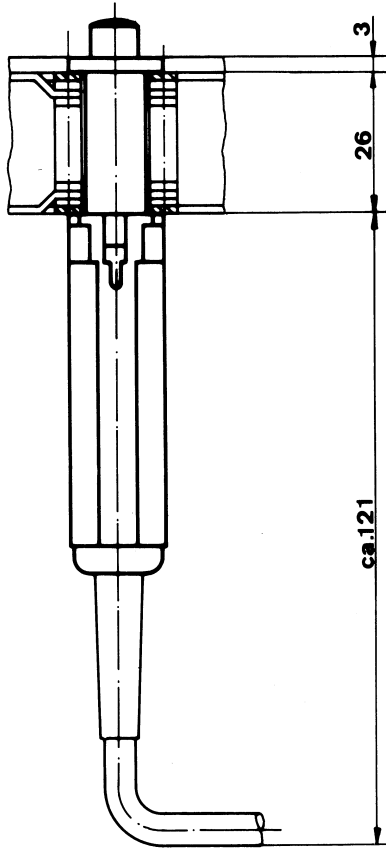
1 Socket T 6.8 or 2 Sockets T 5.5



Flap guard, colour light grey RAL 7032

LT/LS 1879

LT/LS 2479



Technical Brochures Available

Power Station Control and Process Control

Automation system	ME 400
Process control system	ME 4012
Data sheets	ME 4012
Fail-safe control system	ME 4002S
Couplers, electrical power controllers	
Electronic control system	ME 4002
Data sheets: Electronic control system	ME 4002
Data sheets: Electronic control system	ME 4022
Electronic measuring and monitoring system	ME 7002

Application Reports

- Digital turbine control
- Optimal control of industrial steam generators
- Sample documentation ME 4012
(Flue gas desulfurization, absorber circulation)
- Computer-aided design with the
process control system ME 4012
- Reference list of completed process control installations

Power Distribution Control/Remote Control

Remote control system	ME 800
Microprocessor remote control system	ME 8008
Terminal control system	ME 8010
Terminal control system	ME 8012
Remote control system	ME 8012
Microprocessor remote control system	ME 8018
Power distribution control system	ME 6005

Alarm and Event Recording Systems

Event data acquisition system	ME 300
System description	ME-NET
Alarm and event recording system	ME 2015
Criterion computer	ME 2015K
Alarm and event recording system	ME 2025
Electronic alarm system	ME 3008

Mosaic Systems/Control Room Technology

Mosaic systems M
Mosaic systems K
Mosaic systems T
Mosaic systems MK
Mosaic accessory parts
Display elements

Electronic Standard Device

Display units	ANZ
DC voltage monitoring unit	GEÜ 02/GESÜ 02
Alarm and event recording system	ME 2025/96
Compact alarm system	ME 3009
Illuminated annunciator system	ME 3012
Distributed alarm system	ME 3014
Alarm system	ME 3010
Intelligent alarm system	ME 30
Illuminated indicator board Type L	
Cables with connectors, terminal blocks	
Annunciator relays	
Illuminated annunciator relay	
Mosaic indicator boards	
Crosspoint relays	
Couplers	
Time-delay relays	
Illuminated pushbuttons/switches	
Annunciator module	
Flasher unit/flasher amplifiers	
Electronic flasher unit	
Test switch	
Switches and pushbuttons for auxiliary circuits	
Standard rack system	
Illuminated pushbuttons, eyeball indicators	
Reversing thyristor controllers	
Couplers	
Start-up and brake control modules	
Emergency OFF devices	
Two-hand safety relays	
Safety door monitor	
Electronic controllers	

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