

Install in 22-dia. or 25-dia. Panel Cutout (When Using a Ring)


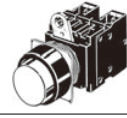
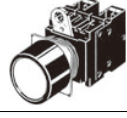




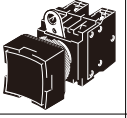


- Lever for easily mounting and removing the Switch Unit.
- Increase wiring efficiency with three-row mounting of Switch Blocks.
- Finger protection mechanism on Switch Unit provided as a standard feature.
- Use 25-dia. ring to install in 25-dia. panel cutouts.
- Mounted using either open-type (fork-type) or closed-type (round-type) crimp terminals.
- IP65 oil resistance (non-lighted models)
IP65 (lighted models)



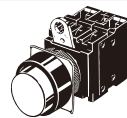

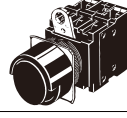
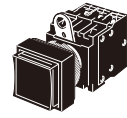
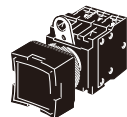
List of Models

Non-lighted Pushbutton Switches

Appearance	Model number
Flat 	A22-F
Projected 	A22-T
Full guard 	A22-G
Half guard 	A22-H

Appearance	Model number
Projected 	A22-C
Guard 	A22-D
Mushroom Small (30 dia.) 	A22-S
Mushroom Medium (40 dia.) 	A22-M

Lighted Pushbutton Switches

Appearance	Model number
Projected 	A22L-T
Full guard 	A22L-G
Half guard 	A22L-H
Projected 	A22L-C
Full guard 	A22L-D

Model Number Structure

Model Number Legend Shipped as a set which includes the Pushbutton, Lamp (lighted type only), and Switch.
For information on combinations, refer to *Ordering Information* on pages 3 to 6.

(1)
(2)
(3)
(4)
(5)
(6)
A 22 L - T R - 12 A - 10 M

(1) Type

Code	Description
No symbol	Non-lighted
L	Lighted

(2) Flange Shape
Non-lighted

Code	Description	
F	Flat	
T	Round Projected	
G		Full-guard
H		Half-guard
C	Square Projected	
D		Full-guard
S	Round Mushroom Small (30 dia.)	
M		Mushroom Medium (40 dia.)

Lighted

Code	Description
T	Projection
G	Round Full-guard
H	
C	Square Projection
D	

(3) Illumination Color

Code	Description
R	Red
G	Green
Y	Yellow
W	White
A	Blue
B	Black*

* For non-lighted type only

(4) Light Source
Without Voltage Reduction Unit

Code	Operating Voltage	
No symbol	Non-lighted	
6D	LED	6 VDC
6A		6 VAC
12A		12 VAC/VDC
24A		24 VAC/VDC
5	Incandescent lamp	5 VAC/VDC
12		12 VAC/VDC
24		24 VAC/VDC

With Voltage Reduction Unit

Code	Operating Voltage	
T1	LED	100 VAC
T2		200 VAC

Note: LED incorporates the 24-VAC/VDC type.

(5) Contacts

Code	Description
10	SPST-NO
01	SPST-NC
11	SPST-NO + SPST-NC
20	DPST-NO
02	DPST-NC

Note: 1. The contact ratings are for standard loads. For microloads, select from the accessories on page 10.
2. Refer to page 13 for contact ratings.

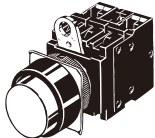
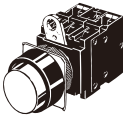
(6) Switch Action

Code	Description
M	Momentary
A	Alternate

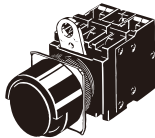
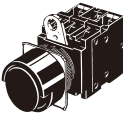
Note: 1. Momentary operation:
Self-resetting
2. Alternate operation:
Self-holding
The Socket Unit holds and the Operation Unit resets.

Ordering Information

Completely Assembled Shipped as a set which includes the Pushbutton, Lamp (lighted type only), and Switch.
Lighted (Round Type)

Appearance	Output	Lighting	Operation		Momentary operation (self-resetting) Set	Alternate operation (self-holding) Set	Illumination color
			Operating voltage				
Round/Projection type LED lighting (without Voltage Reduction Unit) A22L-T 	SPST-NO	LED	6 VDC		A22L-T□-6D-10M	A22L-T□-6D-10A	R (red) Y (yellow) G (green) W (white) A (blue)
			6 VAC		A22L-T□-6A-10M	A22L-T□-6A-10A	
			12 VAC/VDC		A22L-T□-12A-10M	A22L-T□-12A-10A	
			24 VAC/VDC		A22L-T□-24A-10M	A22L-T□-24A-10A	
	SPST-NC		6 VDC		A22L-T□-6D-01M	A22L-T□-6D-01A	
			6 VAC		A22L-T□-6A-01M	A22L-T□-6A-01A	
			12 VAC/VDC		A22L-T□-12A-01M	A22L-T□-12A-01A	
			24 VAC/VDC		A22L-T□-24A-01M	A22L-T□-24A-01A	
	SPST-NO + SPST-NC		6 VDC		A22L-T□-6D-11M	A22L-T□-6D-11A	
			6 VAC		A22L-T□-6A-11M	A22L-T□-6A-11A	
			12 VAC/VDC		A22L-T□-12A-11M	A22L-T□-12A-11A	
			24 VAC/VDC		A22L-T□-24A-11M	A22L-T□-24A-11A	
	SPST-NO + SPST-NO		6 VDC		A22L-T□-6D-20M	A22L-T□-6D-20A	
			6 VAC		A22L-T□-6A-20M	A22L-T□-6A-20A	
			12 VAC/VDC		A22L-T□-12A-20M	A22L-T□-12A-20A	
			24 VAC/VDC		A22L-T□-24A-20M	A22L-T□-24A-20A	
SPST-NC + SPST-NC	6 VDC		A22L-T□-6D-02M	A22L-T□-6D-02A			
	6 VAC		A22L-T□-6A-02M	A22L-T□-6A-02A			
	12 VAC/VDC		A22L-T□-12A-02M	A22L-T□-12A-02A			
	24 VAC/VDC		A22L-T□-24A-02M	A22L-T□-24A-02A			
Round/Projection type LED voltage-reduction lighting (with Voltage Reduction Unit) A22L-T 	SPST-NO	100 VAC		A22L-T□-T1-10M	A22L-T□-T1-10A		
	SPST-NC	200 VAC		A22L-T□-T2-10M	A22L-T□-T2-10A		
	SPST-NO + SPST-NC	100 VAC		A22L-T□-T1-01M	A22L-T□-T1-01A		
		200 VAC		A22L-T□-T2-01M	A22L-T□-T2-01A		
	SPST-NO + SPST-NO	100 VAC		A22L-T□-T1-11M	A22L-T□-T1-11A		
		200 VAC		A22L-T□-T2-11M	A22L-T□-T2-11A		
	SPST-NO + SPST-NO	100 VAC		A22L-T□-T1-20M	A22L-T□-T1-20A		
		200 VAC		A22L-T□-T2-20M	A22L-T□-T2-20A		
	SPST-NC + SPST-NC	100 VAC		A22L-T□-T1-02M	A22L-T□-T1-02A		
		200 VAC		A22L-T□-T2-02M	A22L-T□-T2-02A		

Note: The contact ratings are for standard loads.

Appearance	Output	Lighting	Operation		Momentary operation (self-resetting) Set	Alternate operation (self-holding) Set	Illumination color
			Operating voltage				
Round/Half-guard type LED lighting (without Voltage Reduction Unit) A22L-H 	SPST-NO	LED	24 VAC/VDC		A22L-H□-24A-10M	A22L-H□-24A-10A	R (red) Y (yellow) G (green) W (white) A (blue)
	SPST-NC				A22L-H□-24A-01M	A22L-H□-24A-01A	
	SPST-NO + SPST-NC				A22L-H□-24A-11M	A22L-H□-24A-11A	
	SPST-NO + SPST-NO				A22L-H□-24A-20M	A22L-H□-24A-20A	
	SPST-NC + SPST-NC				A22L-H□-24A-02M	A22L-H□-24A-02A	
Round/Half-guard type LED voltage-reduction lighting (with Voltage Reduction Unit) A22L-H 	SPST-NO	100 VAC		A22L-H□-T1-10M	A22L-H□-T1-10A		
	SPST-NC	200 VAC		A22L-H□-T2-10M	A22L-H□-T2-10A		
	SPST-NO + SPST-NC	100 VAC		A22L-H□-T1-01M	A22L-H□-T1-01A		
		200 VAC		A22L-H□-T2-01M	A22L-H□-T2-01A		
	SPST-NO + SPST-NO	100 VAC		A22L-H□-T1-11M	A22L-H□-T1-11A		
		200 VAC		A22L-H□-T2-11M	A22L-H□-T2-11A		
	SPST-NO + SPST-NO	100 VAC		A22L-H□-T1-20M	A22L-H□-T1-20A		
		200 VAC		A22L-H□-T2-20M	A22L-H□-T2-20A		
	SPST-NC + SPST-NC	100 VAC		A22L-H□-T1-02M	A22L-H□-T1-02A		
		200 VAC		A22L-H□-T2-02M	A22L-H□-T2-02A		

Note: The contact ratings are for standard loads.

Model Number Structure

Model Number Legend Shipped as a set which includes the Pushbutton, Lamp (lighted type only), and Switch.
For information on combinations, refer to *Ordering Information* on pages 3 to 6.

(1) (2) (3) (4) (5) (6)
A 22 **L** - **T** **R** - **12A** - **10** **M**

(1) Type		(2) Flange Shape Non-lighted		(3) Illumination Color		(4) Light Source Without Voltage Reduction Unit			(5) Contacts								
Code	Description	Code	Description	Code	Description	Code	Operating Voltage		Code	Description							
No symbol	Non-lighted	F	Flat	R	Red	No symbol	Non-lighted		10	SPST-NO							
L	Lighted	T	Round	G	Green	6D	LED	6 VDC	01	SPST-NC							
		H		Projected	Y	Yellow			6A	6 VAC	11	SPST-NO + SPST-NC					
		C		Full-guard	W	White			12A	12 VAC/VDC	20	DPST-NO					
		D		Half-guard	A	Blue			24A	24 VAC/VDC	02	DPST-NC					
		S	Square	B	Black*	5	Incandescent lamp	5 VAC/VDC	Note: 1. The contact ratings are for standard loads. For microloads, select from the accessories on page 10. 2. Refer to page 13 for contact ratings.								
		D		Projected	* For non-lighted type only						12	12 VAC/VDC					
		M	Full-guard	24							24 VAC/VDC						
			Mushroom Small (30 dia.)			With Voltage Reduction Unit		(6) Switch Action <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>M</td> <td>Momentary</td> </tr> <tr> <td>A</td> <td>Alternate</td> </tr> </tbody> </table>			Code	Description	M	Momentary	A	Alternate	
Code	Description																
M	Momentary																
A	Alternate																
			Mushroom Medium (40 dia.)			T1	LED	100 VAC	Note: 1. Momentary operation: Self-resetting 2. Alternate operation: Self-holding The Socket Unit holds and the Operation Unit resets.								
			Lighted					T2				200 VAC					
			Code <th>Description</th> <td colspan="2" rowspan="2"></td> <td colspan="2" rowspan="2"></td>	Description													
			T	Projection													
			G	Round	Full-guard												
			H		Half-guard												
			C	Square	Projection												
			D		Full-guard												

Specifications

Characteristics

Type		Pushbutton Switches		Emergency Stop Switches		Knob-type Selector Switches		Key-type Selector Switch	Indicator
		Non-lighted models: A22-F A22-T A22-G A22-H A22-S A22-M A22-C A22-D	Lighted models: A22L-T A22L-G A22L-H A22L-C A22L-D	Non-lighted model: A22E	Lighted model: A22EL	Non-lighted model: A22S	Lighted model: A22W	Non-lighted model: A22K	M22
Allowable operating frequency	Mechanical	Momentary operation: 60 operations/minute max.		30 operations/minute max.		Manual reset: 30 operations/minute max. Automatic reset: 30 operations/minute max.		---	
	Electrical			30 operations/minute max.				---	
Insulation resistance		100 MΩ min. (at 500 VDC)							
Dielectric strength	Between terminals of same polarity	2,500VAC, 50/60Hz for 1min							
	Between each terminal and ground	2,500VAC, 50/60Hz for 1min							
Vibration resistance	Malfuction *1	Malfuction *2: 10 to 55 Hz, 1.5-mm double amplitude							
Shock resistance	Destruction	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²	1,000 m/s ²
	Malfuction *1	1,000 m/s ² max.	600 m/s ² max.	250 m/s ² max.	1,000 m/s ² max.	600 m/s ² max.	1000 m/s ² max.	600 m/s ² max.	600 m/s ² max.
Durability	Mechanical	Momentary operation: 5,000,000 operations min.		300,000 operations min.		500,000 operations min.		100,000 operations min.	
	Electrical	500,000 operations min.		300,000 operations min.		500,000 operations min.		100,000 operations min.	
Ambient operating temperature *2		-20°C to 70°C	-20°C to 55°C	-20°C to 70°C	-20°C to 55°C	-20°C to 70°C	-20°C to 55°C	-20°C to 70°C	-20°C to 55°C
Ambient operating humidity		35% to 85% RH							
Ambient storage temperature *2		-40°C to 70°C							
Degree of protection *3		IP65 (oil-resistant)	IP65	IP65 (oil-resistant)	IP65	IP65 (oil-resistant)	IP65	IP65 (oil-resistant)	IP65
Electric shock protection class		Class II							
PTI (tracking characteristic)		175							
Degree of contamination		3 (IEC947-5-1)							

*1. Malfuction within 1 ms.

*2. With no icing or condensation.

*3. Degree of protection from the front of the panel.

Operating Characteristics (for SPST-NO/SPST-NC)

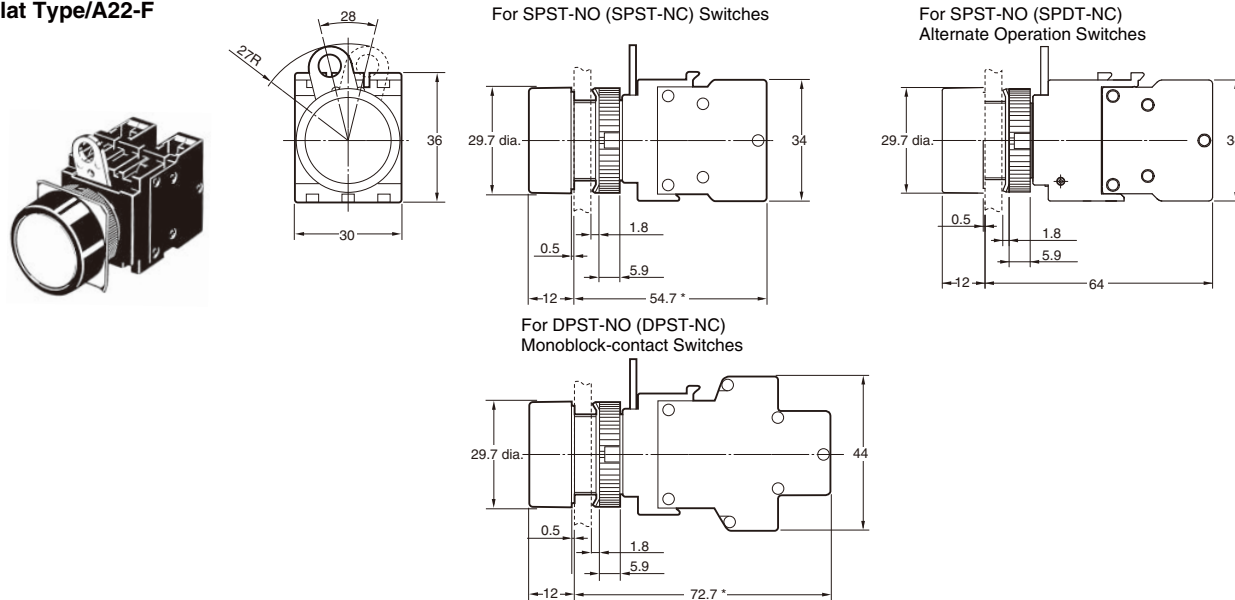
Item	Type	Pushbutton Switches	Emergency Stop Switches		Knob-type Selector		Key-type Selector Switch	
		Lighted Nonlighted Pushbutton Switches	Push-lock turn reset system/ Push-lock, key reset	Push-pull	Manual reset	Automatic reset	Manual reset	Automatic reset
		A22-F A22-T A22-G A22-H A22-C A22-D A22-S A22-M A22L-T A22L-G A22L-H A22L-C A22L-D	A22E A22EL A22E-□K	A22E-□P	A22S A22W		A22K	
Total travel force (TTF) max.		29.4 N	44.1 N	58.8 N	0.34 N·m*	0.25 N·m for two notches * 0.34 N·m for three notches *	0.34 N·m*	0.25 N·m for two notches * 0.34 N·m for three notches *
Total travel (TT)		5.5 mm max.	10±1 mm	5.5±1 mm	Approx. 90° for two notches (Approx. 45° for three notches)		Approx. 90° for two notches (Approx. 45° for three notches)	
Resetting force (RF) min.		---	0.25 N·m max.*	58.8N max.	0.34 N·m max.*	---	0.34 N·m max.*	---

* Rotation torque for Emergency Stop Pushbutton, Knob-type Selector, and Key-type Selector Switches.

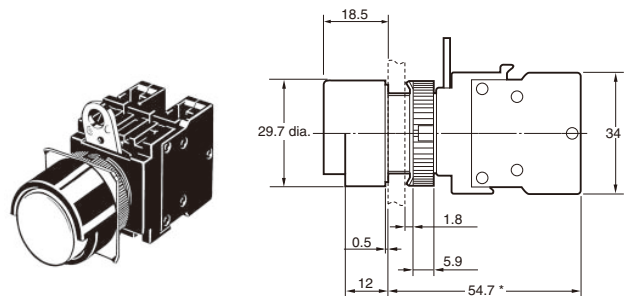
Dimensions

Lighted/Non-lighted Pushbutton Switches (The following illustrations are for momentary operation.)

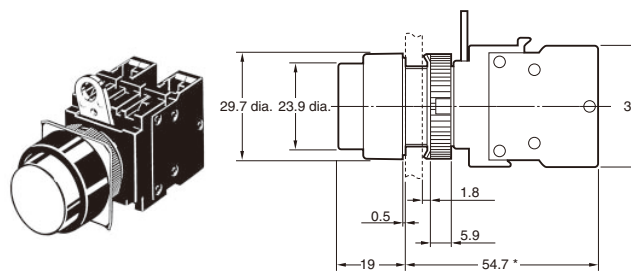
Flat Type/A22-F



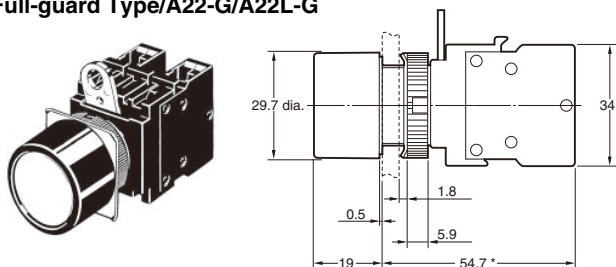
Half-guard Type/A22-H/A22L-H



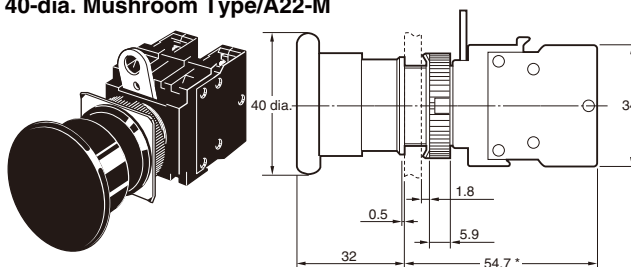
Projection Type/A22-T/A22L-T



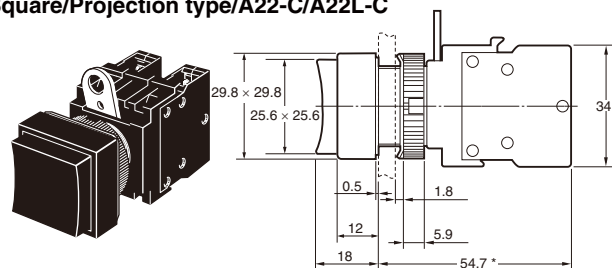
Full-guard Type/A22-G/A22L-G



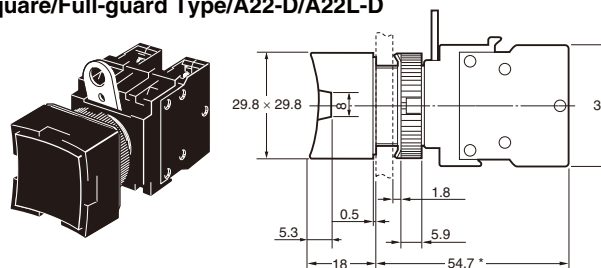
40-dia. Mushroom Type/A22-M



Square/Projection type/A22-C/A22L-C



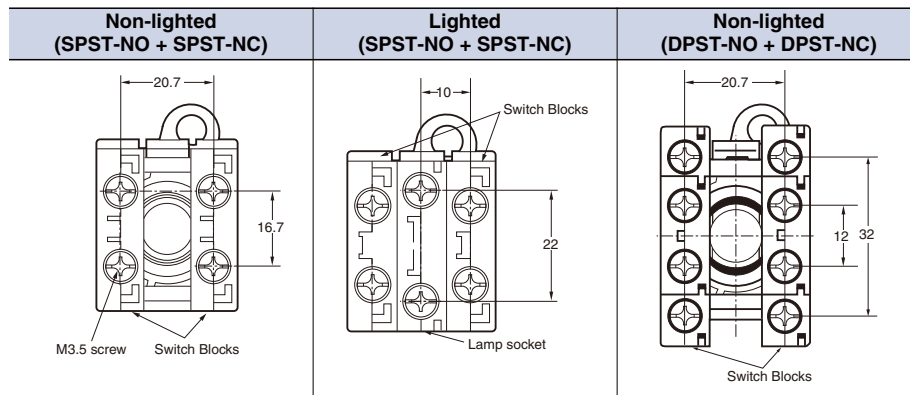
Square/Full-guard Type/A22-D/A22L-D



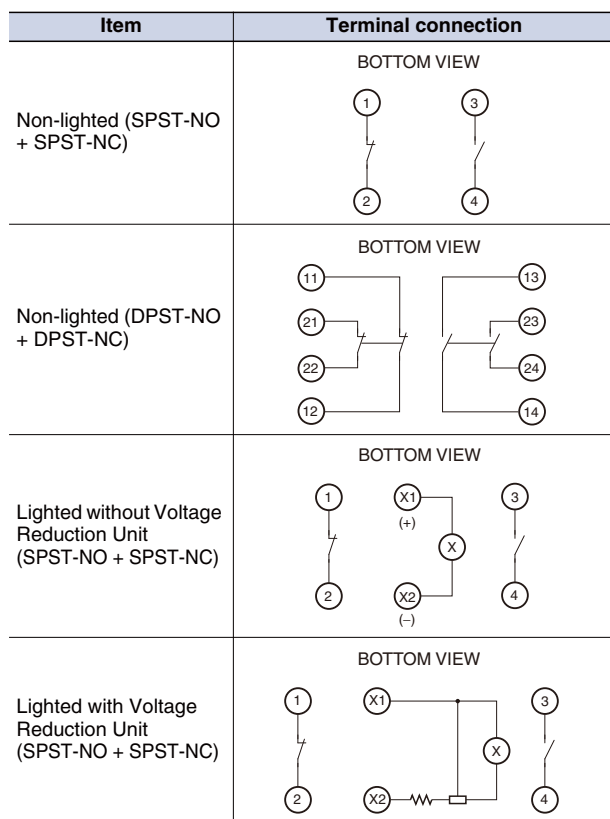
Note: Lighted models have the same dimensions as shown above, whether they are with or without Voltage Reduction Units.
 * Alternate operation models are 9.3 mm longer.

Dimensions

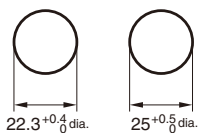
Terminal Arrangement (Bottom View)



Terminal Connection



Panel Cutouts



Lock ring is provided as a standard item.

- When applying coating such as paint to the panel, the dimensions should be those after the application of coating.
- Recommended panel thickness: 1 to 5 mm.
- Use an A22Z-R25 Ring when mounting to a panel with 25-mm holes.