

BDM5-630
DC molded case circuit breaker



- 1 Brand
- 2 Product Model
- 3 Instantaneous Current Setting Value
- 4 Rated Ultimate/Operating Short-Circuit Breaking Capacity
- 5 Rated Operating Voltage
- 6 Compliance with Standards
- 7 Certification Mark
- 8 Rated Operating Current

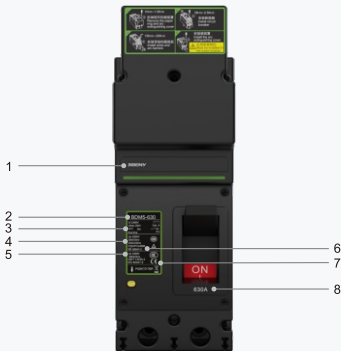
- Easy to install, compact in size
- High breaking capacity,excellent insulation performance
- Overload protection, short-circuit protection
- Zero arcing
- Rated voltage up to DC 2000V
- Rated current up to 630A
- The product complies with the standards.
GB/T 14048.2
IEC 60947-2
EN 60947-2



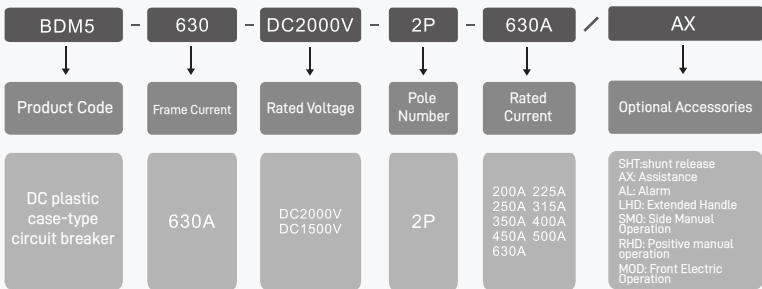
Product Overview

BENY The BDM5-630 DC molded case circuit breaker is mainly applied inin photovoltaic power generation systems and other new energy circuit systems, including photovoltaic combiner boxes, photovoltaic inverters,photovoltaic DC cabinets, etc. With rated voltages of DC 2000V and DC 1500V and a rated current up to 630A,it can quickly interrupt the fault current of the DC power distribution system, ensuring the reliable operation of the solar photovoltaic power generation system.

Appearance Introduction



Model Designation

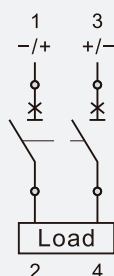


Technical Parameters

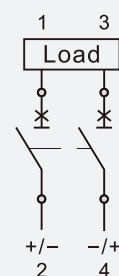
Electrical Characteristics		
Model		BDM5-630
Standard		GB/T 14048.2, IEC 60947-2, EN 60947-2
Number of Poles		2P
Rated Operational Voltage	Ue	DC2000V、DC1500V
Rated Frame Current	Ith	630A
Rated Current	In	200A, 225A, 250A, 315A, 350A, 400A, 450A, 500A, 630A
Rated Insulation Voltage	Ui	2300V
Rated Impulse Withstand Voltage	Uimp	15kV
Rated Ultimate Short-Circuit Breaking Capacity	Icu	DC2000V: Icu=Ics 30kA/3ms、15kA/10ms DC1500V: Icu=Ics 50kA/3ms
Rated Service Short-Circuit Breaking Capacity	Ics	
Instantaneous Trip Current Setting	Ii	5In (Customizable 8 Inches)
Arcing Distance	0mm	
Service Life		
Arcing Distance	5000 times	
Mechanical Life	200 times	
Installation & Environmental Conditions		
Degree of Protection (IP)	IP20	
Mounting Screw Torque	M5: 2N·m-2.5N·m, M4: 1N·m-1.5N·m	
Terminal Screw Torque	M10: 15N·m-20N·m	
Ambient Operating Temperature	-40℃~+80℃	
Storage Temperature	-40℃~+85℃	
Pollution Degree	3	

Product Overview

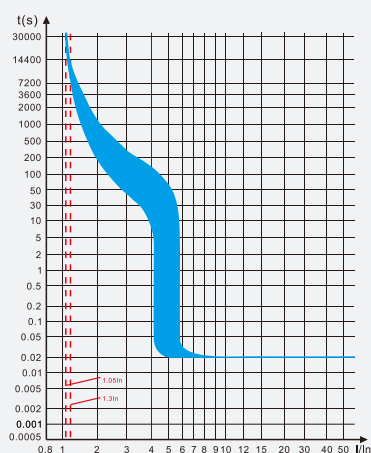
Top Feed (Recommended)



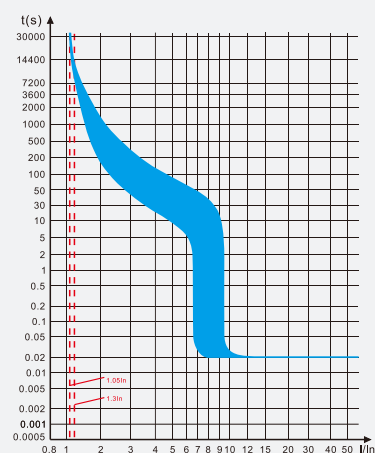
Bottom Feed



Circuit Breaker Time-Current Characteristic Curve



- 1) Cold state: $I = 1.05 \times I_n$, $t < 2$ h, No trip
- 2) Hot state: $I = 1.3 \times I_n$, $t < 2$ h, Trip
- 3) Cold state: $I = 3 \times I_n$, $t \leq 500$ s
- 4) Instantaneous trip: $5 \times I_n \pm 20\%$



- 1) Cold state: $I = 1.05 \times I_n$, $t < 2$ h, No trip
- 2) Hot state: $I = 1.3 \times I_n$, $t < 2$ h, Trip
- 3) Cold state: $I = 3 \times I_n$, $t \leq 500$ s
- 4) Instantaneous trip: $8 \times I_n \pm 20\%$

Derating Curves

Temperature Derating

Model	Ambient Temperature Derating Factor				
	-40°C ~ 40°C	50°C	60°C	70°C	80°C
BDM5-630	100%	95%	90%	85%	80%

Altitude Derating

Altitude	2000m	3000m	4000m	5000m
Power-Frequency Withstand Voltage	100%	100%	100%	100%
Insulation Voltage	100%	100%	100%	100%
Operating Current	100%	100%	90%	80%
Operating Voltage	N/A			

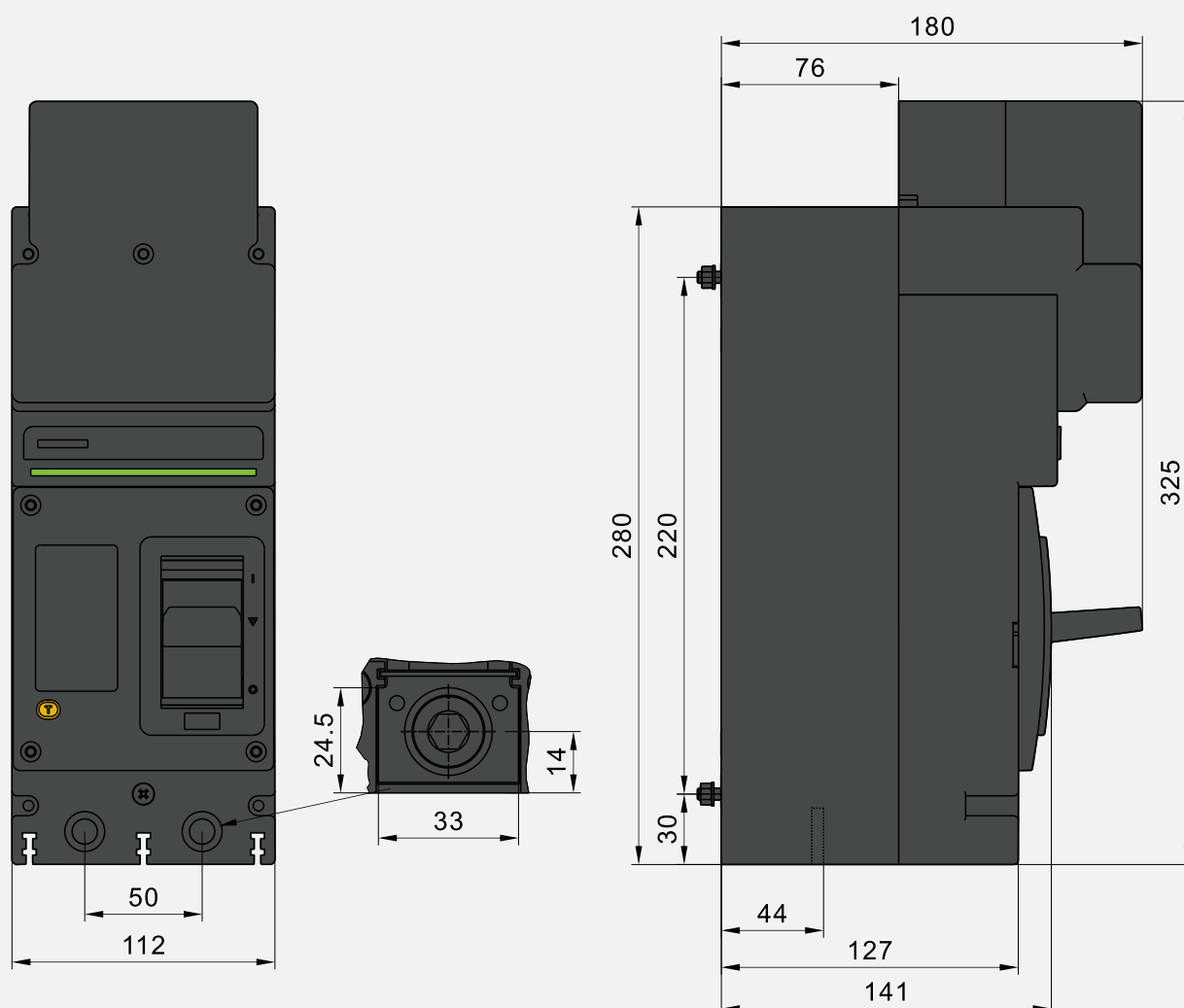
Recommended Cable Size

Rated Current (A)	200、225	250	315、350	400	450、500	630
Conductor Cross-sectional Area (mm ²)	95	120	185	240	150*2	185*2

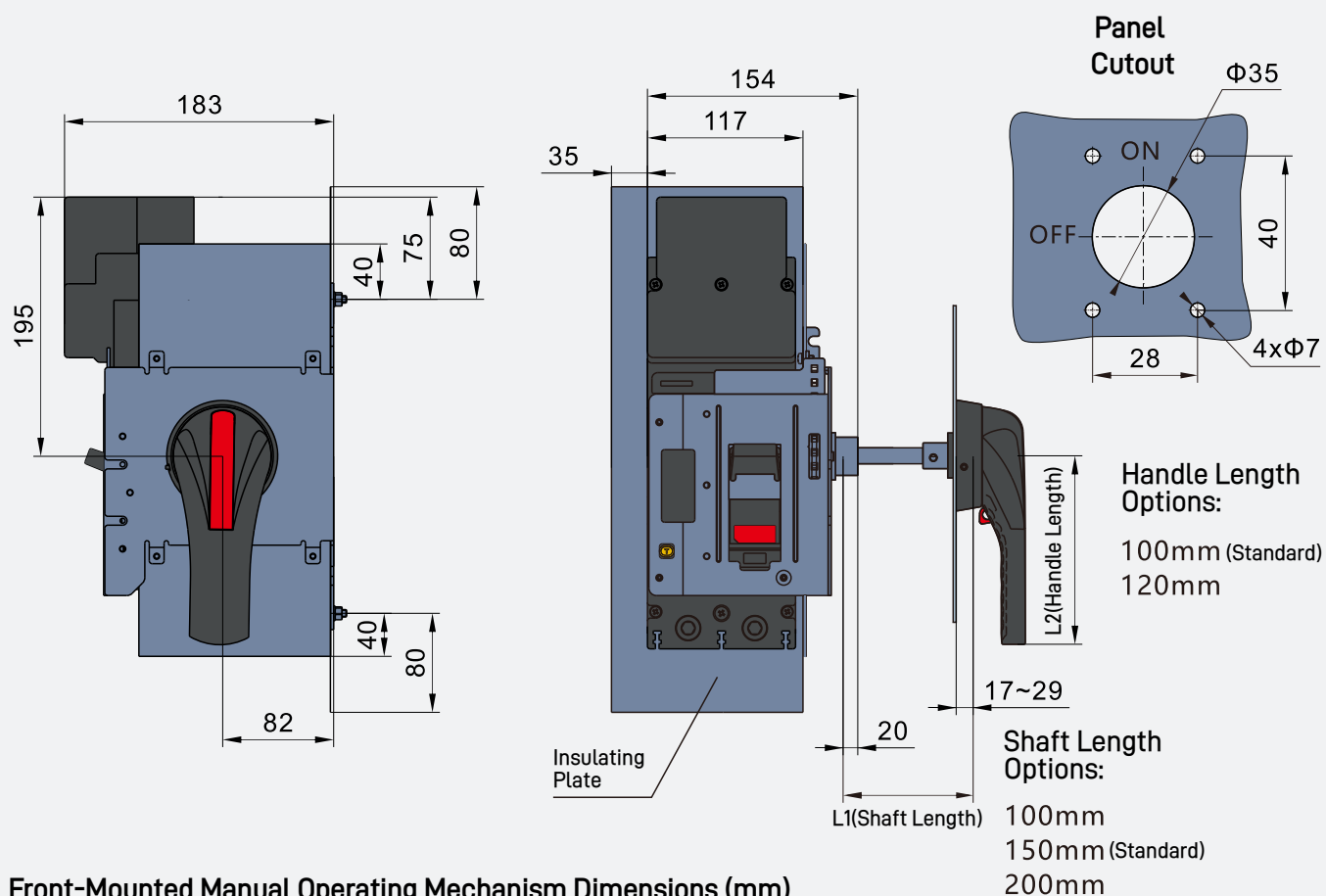
Power Dissipation

Rated Current (A)	200	225	250	315	350	400	450	500	630
Maximum Power Dissipation (W)	36	45	70	44	54	70	74	90	144
Maximum Internal Resistance (mΩ)	0.89	0.89	0.89	0.44	0.44	0.44	0.37	0.37	0.37

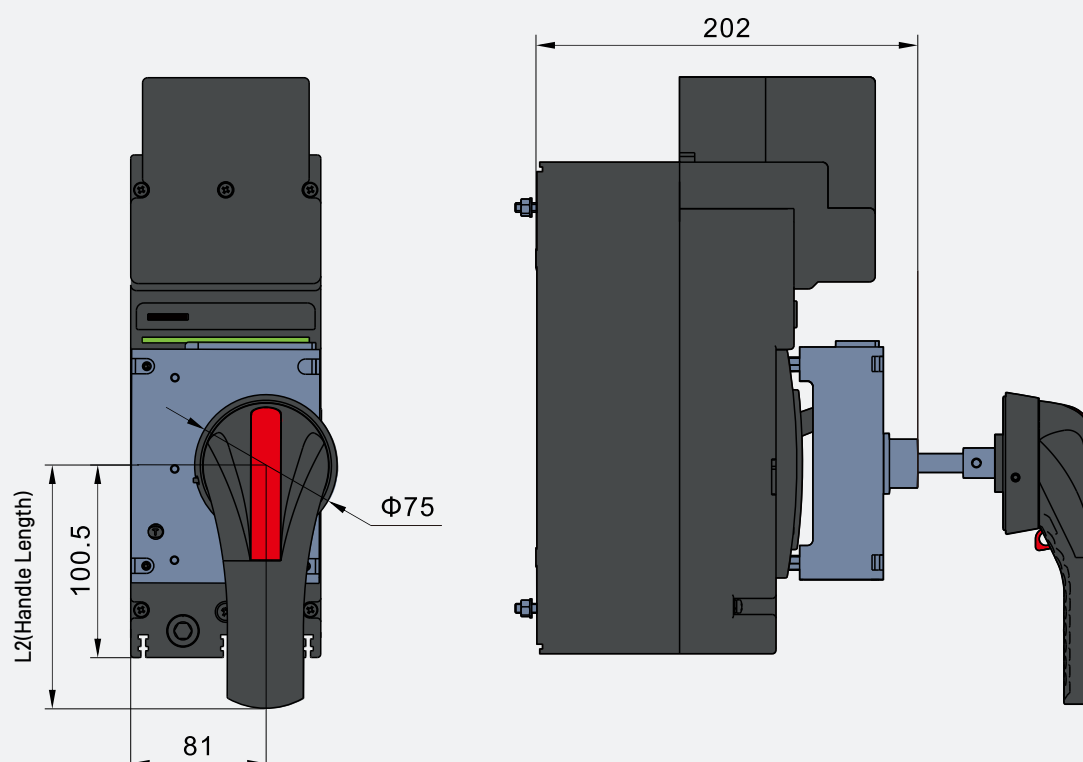
Overall Dimensions (mm)



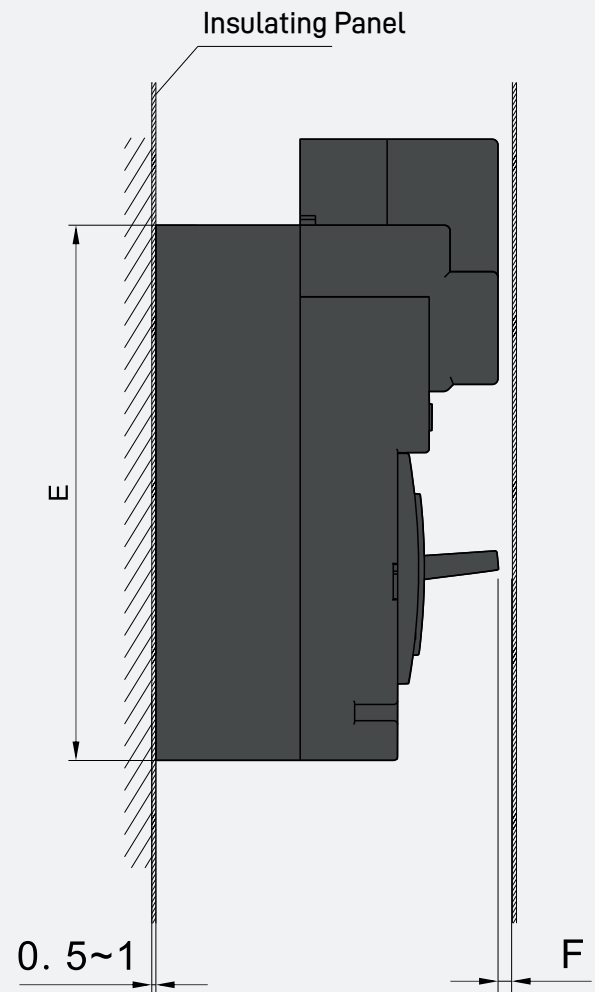
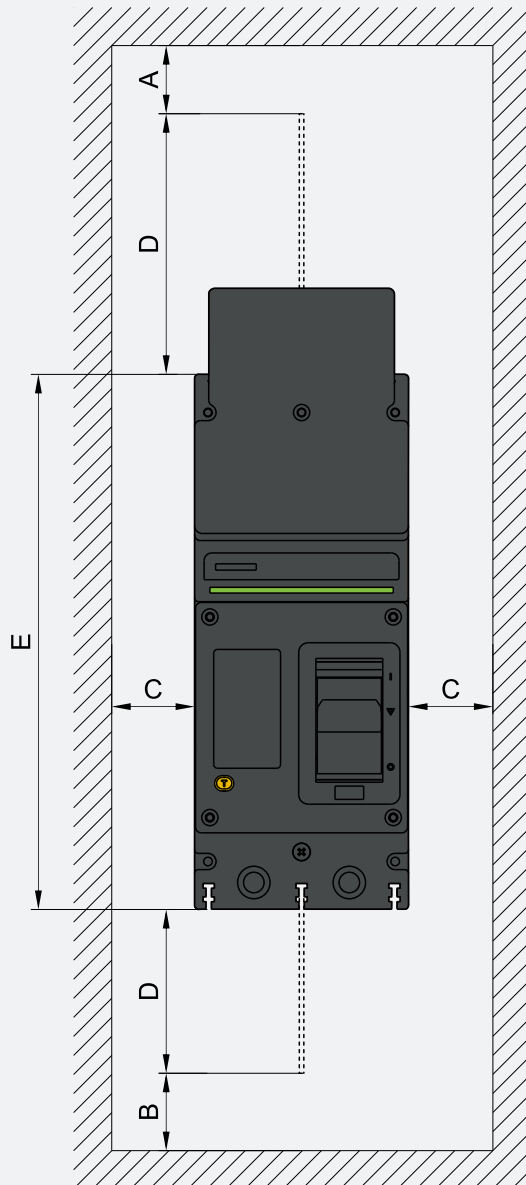
Side-Mounted Manual Operating Mechanism Dimensions (mm)



Front-Mounted Manual Operating Mechanism Dimensions (mm)



BDM5-630 Minimum Safety Clearance (mm)



Model	A	B	C	D	E	F _(Insulating Panel)	F _(Metal Panel)
BDM5-630	0	0	20	123	280	0	5

Accessory

Auxiliary Contact



Extended Handle



Shunt Trip Release



Front-mounted Manual Operating Mechanism



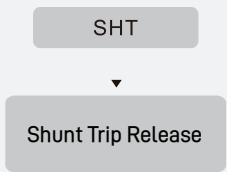
Alarm Contact



Side-mounted Manual Operating Mechanism



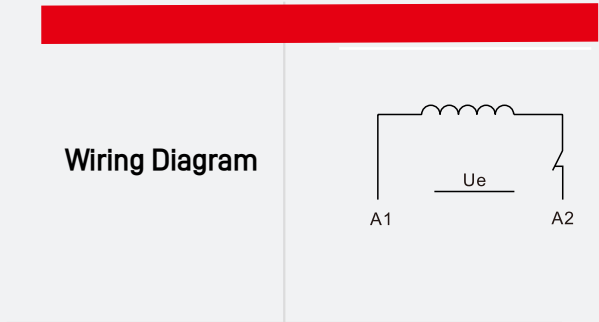
Accessory: Shunt Trip Release



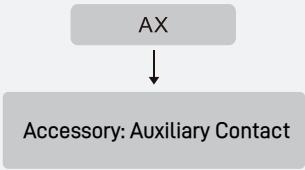
- The shunt trip release enables remote tripping of the circuit breaker.
- Compliant with GB/T 14048.1 and IEC 60947-1.

Specifications & Wiring Diagram

Electrical Specifications	
Control Voltage	DC24V、AC230V、AC400V
Energizing Time	0.2~1s
Minimum Operating Voltage	70%Ue
Maximum Operating Voltage	110%Ue
Operating Frequency	6 Times/min
Operating Temperature	-40℃~ +80℃



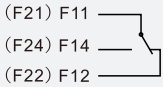
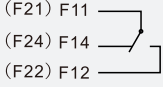
Specifications & Wiring Diagram



- The auxiliary contact provides remote indication of the breaker ON/OFF status.
- Compliant with IEC 60947-5 and GB/T 14048.5.

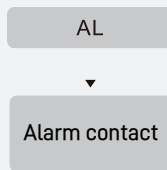
Specifications & Wiring Diagram

Electrical Specifications		
Ith	5A	
AC-15	Ue=AC110V	Ie=5A
	Ue=AC240V	Ie=4A
	Ue=AC415V	Ie=2A
DC-13	Ue=DC110V	Ie=0.25A
	Ue=DC220V	Ie=0.1A
Operating Temperature	-40℃~ +80℃	

Display	Wiring Diagram
OFF&TRIP	
ON	

Note: When the customer orders 2 wires, the F12 (22) conductor is not included.

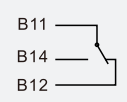
Appendix: Alarm contact



- Monitors the breaker trip status caused by a fault and provides an alarm signal.
- Compliant with GB/T 14048.1 and IEC 60947-1.

Specifications & Wiring Diagram

Electrical Specifications		
Ith	5A	
AC-15	Ue=AC110V	Ie=5A
	Ue=AC240V	Ie=4A
	Ue=AC415V	Ie=2A
DC-13	Ue=DC110V	Ie=0.25A
	Ue=DC220V	Ie=0.1A
Operating Temperature	-40°C ~ +80°C	

Display	Wiring Diagram
OFF&ON	
TRIP	