



◀ Open it
to save energy

Bajaj Luminaires
Presenting A unique range
of Energy Saving Luminaires



Lighting up the path towards Energy Conservation!

Energy! The force that makes the world go round!

We can Consume it, Conserve it,
but we Cannot Create new energy!

Can we then recklessly deplete... what we have,
no power to replenish?

Bajaj Luminaires are based on the sound principle of
'Conservation through Low Consumption!'

We have designed our luminaires to last longer.....
so that we can say,

"Let there be Light.....Forever!"



Energy Conservation



BJASW 02 Nature Switch

Nature Switch designed for automatic control of night sensitive electrical lighting circuits using space grade infra-red sensor which automatically adjusts 'ON' and 'OFF' time as per the seasonal variation of daylight independent of altitude and latitude, for single phase loads.

Features

- Auto switch 'ON' of light at dusk
- Auto switch 'OFF' at dawn or after selected duration
- No clock setting or clock tuning
- Direct switching load up to 3kw single phase
- Wide operating AC supply voltage (185 to 275 V)
- Degree of protection : IP 54
- Electrical safety - Class I

Advantages

- Eliminates the need for human operation of the electrical switching
- Makes possible auto switch 'ON' at the real time necessity
- Makes possible auto switch 'OFF' at the real time necessity
- Saves energy by way of avoiding electricity wastage in manual switching
- Sprawling areas can also be controlled simultaneously unlike manual system



Energy Conservation



Energy Pack

Energy Pack, is a lighting control device for outdoor luminaires. It optimises the switching ON/OFF cycle, automatically, using Nature Switch having space grade infra red sensor, as per seasonal variation of daylight. It is used for automatic, group control of outdoor luminaires, eliminating the need for any manual operation.

Features

- Auto switch 'ON' of light at dusk
- Auto switch 'OFF' at dawn or after selected duration
- No clock setting or clock tuning
- Direct switching load upto 15KW-three phase
- Wide operating AC supply voltage (185 to 275 V)
- Degree of protection : IP 54
- Electrical safety - Class I

Specification

- Specially designed plastic molded housing to accommodate power contactor, overload protection devices, terminal blocks, MCB for three phases etc.
- Molded front opening door with clear transparent window for sensing variation of daylight by the nature switch.
- MS plates fixed to the housing for pole mounting.
- Front door provided with unique lock and key arrangement for safety.



Electrical Data & Specification

- Operating Voltage Range : 185 - 275V AC, 50-60 Hz
- Maximum Load : 15KW (3 Phase)
- Endurance at rated load : Minimum 5000 cycles
- **Operating Illuminance Levels :**
 - 1) For Switching ON : <60 lux for >30 sec
(per Std. Test Procedure)
 - 2) For Switching OFF : >10 lux for >30 sec
(per Std. Test procedure)**
- Max. Device Power Consumption : 1 Watt at 230V AC
- Insulation Resistance : Minimum 5 Mega Ohms
- Operating Temperature Range : -10°C to +60°C
- Operating Humidity Range : Upto 95% RH at 40°C
- **Over Voltage trip levels**
 - A) Auto High Voltage Sense and Trip : Above 270V AC
 - B) Auto High Voltage Sense and Reset : Below 255V AC
- **Under Voltage trip levels**
 - A) Auto Low Voltage Sense and Trip : Below 150V AC
 - B) Auto Low Voltage Sense and Reset : Above 165V AC
- Selectable res. for switching off from dusk : 4 Hrs to 8 Hrs
with a resolution of half an hour

Override facility for continuous 'ON' and continuous 'OFF' for maintenance

Cost economics of 15KW three phase energy pack (example)

Type of Luminaire	250W SV Roadway Luminaire
Lamp Type	250W SV
Ballast Type	250W SV
Watt Loss per Ballast	35W
Total Wattage per Luminaire	285W
Number of Luminaires for	
Three phase 15 kW Nature Switch	50 Nos.
Total Power Saving for 50 Luminaires	14.25 kW
Assuming optimisation in switching cycle & reduction of operating time by 1 hr using 15W 3P Energy Pack	
Nature Switch	14.25 kW
Power Consumption per Year	5201.25 kWh
Power Tariff per Unit	Rs. 5.00
Total Saving per Annum	Rs. 26006.25
Cost of 1 BJCP 15 KW NS 3P	Rs. 21800.00 (appx.)
Cost Recovery per Unit	Rs. 0.84
Pay Back Period	11.00 (months)

Less than 8 Months

Other Savings : Manual operation, Labour Charge for Switching ON and OFF is extra.



Energy Conservation



Magic Box



Magic Box, an innovation from Bajaj Electricals Limited which serves as an attachment that can be used along with multitap ballast for all existing roadways and other outdoor HPSV lighting installations, without any major modification in the luminaire. Magic Box is extremely useful in outdoor HPSV applications, eg. Highway and Multi-level Junctions, Roads and Flyovers, Commercial and Residential Complexes/ Security lighting etc. A very intelligent device for power saving. The switch over from rated wattage to lower wattage depending upon the preset is done with over load / voltage protection, timer & switch arrangement.

Features

- Auto change over to lower wattage after selected duration
- Wide operating AC supply voltage (150 to 260V)
- Suitable for dimming from rated wattage to lower wattage by 30% ($\pm 5\%$)
- Degree of protection IP 54



Typical Installation view
at peak hours



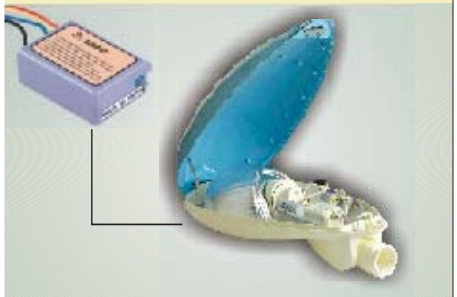
Typical Installation view
at non-peak hours with dimming

Benefits

- Memory back-up from re-chargeable battery
- Auto overload trip by electronic over current sensor
- Built-in intelligence for pre-warming discharge lamp
- Memory unaffected by power interruptions
- Payback period less than 12 months.

Cost economics of outdoor installations with Magic Box

Sr. No.	Description	Units	Normal Replacement in standard 250w Streetlight Fixture	Normal Replacement in standard 250w Streetlight Fixture
A Capital Costs				
1	No. of Luminaires installed	Nos.	100	100
2	Cost Of fitting one Luminaire (BJMSD 04 250 SV)	Rs.	3565.00	5710.00
3	Total Capital Cost	Rs.	3565.00	5710.00
4	Additional Investment	Rs.		214500.00
B Operational Costs				
1	Power Consumption per Luminaire	Watts		
2	With Conventional Luminaire per Day (Say from 6.30pm to 6.30 am)	Per Luminaire	284 x 12	-
3	With Magic box Luminaire per Day (Say from 6.30pm to 10:30 pm on 250w) (Say from 10.30pm to 6:30 am on 150w)	Per Luminaire		284 x 4 174 x 8
4	Total power Consumption per day	Watts	3408	2528
5	Total Energy consumption per year considering 365 Working days	KW/hr	124392 Units	92272 Units
6	Total power saving	KW/hr		32120 Units
7	Total Operating Cost @ Rs.5 / Unit	Rs.	621960	461360
8	Savings in Operating Cost	Rs.		160600
9	Pay Back Period LESS THAN 17 MONTHS	Months		16.4



Energy Conservation



BTMB - Range

Lowbay Integral Suitable
for T5/CFL/FTL Luminaires



Railway concourse halls

Railway Platforms

Retail Malls

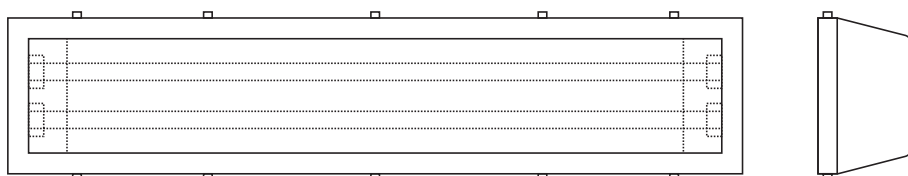
Warehouses

Food plaza etc

Features

- Energy saving decorative multi functional luminaire
- The elegant design enhances the aesthetics and suits every interior
- Integral decorative powder coated CRCA housing with attractive diffuser
- Scientifically designed pre-anodised aluminium reflector for enhanced light distribution.
- Two nos 20 mm knock-outs for conduit mounting
- Push fit hingeable reflector and hingeable frame enable easy maintenance
- Degree of protection: IP 54





Diagrammatic Representation

Electical Data

Cat. Ref.	Lamp Type & Wattage (W)	Nominal Voltage (V)	Mains Current in Amps at 240V	Power Factor
BTMB 228 T5	2 x T5 28	240	0.276	>0.95
BTMB 254 T5	2 x T5 54	240	0.505	>0.95
BTMB 228 T5 PC	2 x T5 28	240	0.276	>0.95
BTMB 254 T5 PC	2 x T5 54	240	0.505	>0.95
BTMB 428 T5 PC	4 x T5 28	240	0.560	0.998
BTMB 454 T5 PC	2 x T5 54	240	0.860	0.998
BTMB 228 T5 PC	2 x T5 28	240	0.276	>0.95
BTMB 228 T5 PC	2 x T5 28	240	0.276	>0.95
BTMB 228 T5 PC	2 x T5 28	240	0.276	>0.95
BTMB 228 T5 PC	2 x T5 28	240	0.276	>0.95



Energy Conservation



BTSLF - T5 Lamp Roadway Luminaires



Energy conservation T5 lamp

Luminaire Body

Muncell grey finish deep drawn aluminium / CRCA sheets steel FRP housing with stove enamelled CRCA sheets steel reflector.

Clear acrylic cover with rubber gasket fixed by toggles.

Side entry mounting for 40 to 50 mm OD pipe bracket in BTSLF 414/424 DD/FRP luminaire.

2 Nos. 'U' clamp and bolts are provided for direct mounting on pipe bracket in MS version luminaires.

Lamp and Accessories

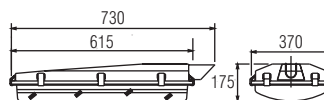
All electrical accessories, electronic ballast suitable for quadruple 14/24W T5 lamp are wired upto the terminal block.

Degree Protection

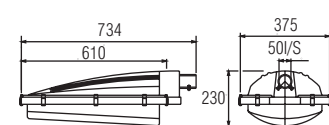
BTSLF 414/424 DD : IP 54

BTSLF 414/424 MS : IP 55

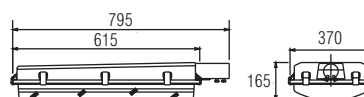
BTSLF 414/424 FRP : IP 65



BTSLF 314/414 MS



BTSLF 314/414 FRP



BTSLF - T5 Lamp Roadway Luminaires

Energy conservation T5 lamp

Luminaire Body

Muncell grey finish MS sheet housing, epoxy white powder coated MS sheet gear tray covered with anodised aluminium reflector.

Clear acrylic cover with rubber gasket fixed by toggles.

Side entry mounting for 30 mm OD pipe bracket.

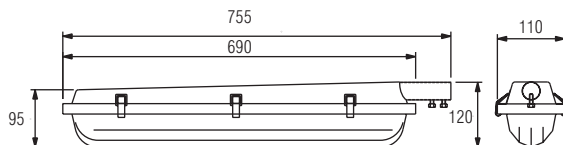
Lamp and Accessories

All electrical accessories, electronic ballast suitable for single/twin 14/24W T5 lamp are wired upto the terminal block.

Degree Protection

IP 53

NOTE: BTSLF 128/228 T5 - Luminaire suitable T5 lamp available in range





For Further Information Contact :

BAJAJ LUMINAIRES

Making the difference

15/17, Sant Savta Marg, Reay Road, Mumbai - 400 010.

Phone : 022-23765000, Fax : 022-23730504

E-mail : luminaires@bajajelectricals.com, www.bajajelectricals.com