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Thermostat Wiring Guide

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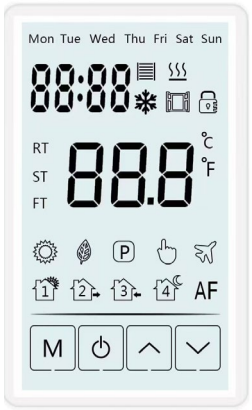
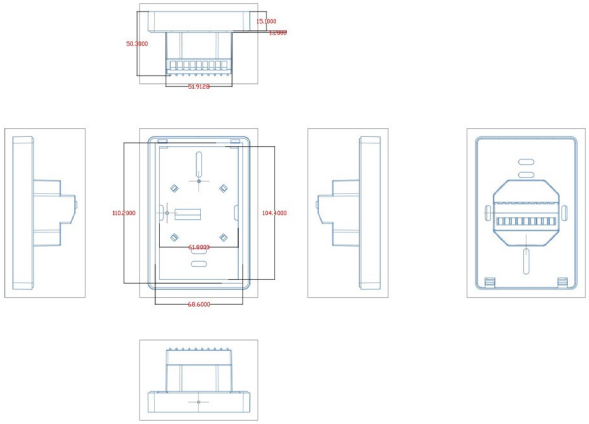
Eco Dual Thermostat



Technical Data

Supply voltage	230/240V 50/60Hz
Maximum load	16A (20A combined)
UFH relay	16A (3600W)
Appliance relay	5A (1125W)
Temperature range	5 ~ 35°C
Ambient	0 ~ 50°C
Compatible sensors*	6.8k , 10k , 12k , 15k , 33k
Accuracy	±0.5°C
IP rating	IP30
Width	119.5mm
Height	79.5mm
Depth	50mm (32mm in wall)

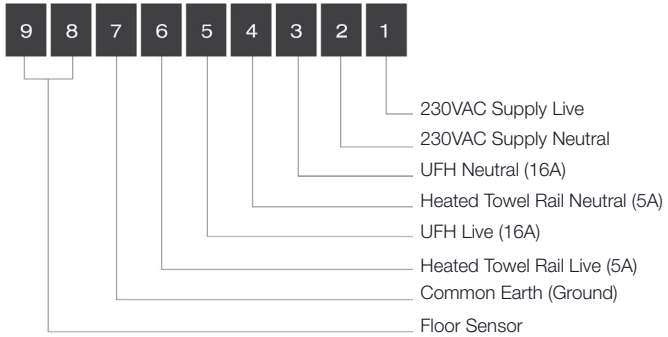
Line Drawings



Wiring diagram

Eco Dual Control Thermostat to the Underfloor Heating (UFH) cold leads, Heated Towel Rail, power supply and floor temperature sensor.

The floor temperature sensor is not polarity sensitive.



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Eco Dual Thermostat

*If you are using your thermostat for **Heated Towel Rails ONLY**, please jump to page 6

Operation

1. **UFH ON/OFF:** Press ⏻ key to turn on, press again to turn off.
2. **Heated Towel Rail/Rails Controls ON/OFF:** Hold ⏻ key for 3 seconds to turn on, hold for 3 seconds again to turn off. You can switch the appliance on for 1 hour, 2 hour or 4 hours in advanced settings.
3. **Lock:** On the main screen, hold ^ key for 3 seconds to lock, hold for 3 seconds again to unlock.
4. **Mode:** On the main screen, press **M** key to choose mode, Program-Manual-Holiday mode.

Temporary mode: At program mode, press ^ or v to set the temperature. The thermostat will enter temporary mode. The thermostat will operate under set temperature until the next heating period.

Holiday mode: At holiday mode press ^ or v to set temperature. No confirmation is needed, thermostat will operate under set-temperature according to days set in advanced setting F4. Default 10°, Max 20°.

Compatibility

The ECO Dual Control Thermostat (ECO-DT-BWS-WHT) is compatible with almost all electric Underfloor Heating (UFH) systems available. The ECO Dual Control Thermostat can replace your existing underfloor heating thermostat and is compatible with many of the most popular thermostat brands' floor sensor probes including those rated at:

- Ther 10Ω @ 25°C (Default Sensor)
- Tep 6.8Ω @ 25°C
- Ens 10Ω @ 25°C
- OJ 12Ω @25°C
- Devi 15Ω @25°C
- Eber 33Ω @25°C

Replacing an existing Thermostat? Contact the manufacturer's technical department and ask for the rating of the floor sensor at 25°C.

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Eco Dual Thermostat

Setting

Press ⏻ to turn off thermostat, press **M** to go to F1. Use ^ and v to select F1, F2, F3 or F4.

Item	Setting	Function
F1	Date & Time Setting	Modify the Date & Time
F2	Program	Modify Time and temperate of 4 program periods.
F3	Read Operation Time	Read the working time per day, month & year.
F4	Advanced Setting	Modify advanced settings.

F1: Date & Time Settings

Select F1, press **M** to enter, press ^ or v to set day, hour, minutes, press **M** to confirm. Once set, press **M** to leave or the thermostat will automatically return to main screen after 5 seconds.

F2: Program

Select F2, press **M** to enter, press ^ or v to select day and program period, press **M** to enter, use ^ or v to set time and temperature, use to exit or the thermostat will automatically return to main screen after 5 seconds.

Standard Program

Day	1	2	3	4
Mon-Fri	WAKE 06:00 21°C	LEAVE 08:30 18°C	BACK 17:00 21°C	SLEEP 23:00 18°C
Sat-Sun	WAKE 06:00 21°C	LEAVE 08:30 18°C	BACK 17:00 21°C	SLEEP 23:00 18°C

F3: View Operating Time

Select F3, press **M** to enter, press ^ or v to see the operation time per day, month, year.

Eg: 10:17 03 means thermostat will operate in total for 3 days, 10 hours and 17 minutes. Press **M** to leave.

F4: Advanced Setting

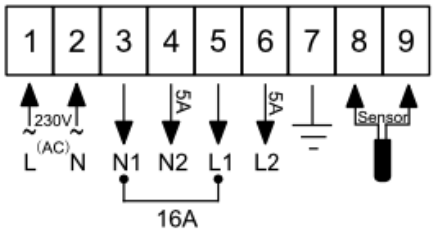
Note: Advanced setting menu should be modified by installer or qualified persons.

Select F4, press **M** to enter, Use **M** to select item, use ^ or v to modify value. Press ⏻ to exit.

Eco Dual Thermostat

Item	Default Value	Setting Range
01: Sensor Selection	01	01: Built-in & floor limit 02: Built-in sensor 03: Floor sensor
02: Room Temperature Calibration	0°C	-5°C~5°C
03: Floor Temperature Calibration	0°C	-5°C~5°C
04: Floor Limit	35°C	5°C~60°C
05: Schedule	5-1-1	5-1-1/7
06: Adaptive Start	OFF	ON/OFF
07: Adaptive Start Time	20mins	0-40mins
08: Open window	OFF	ON/OFF
09: Sensor Type	10K	6.8K/10K/12K15K/33K
10: Anti-freeze Function	OFF	ON/OFF
11: Holiday Time	1day	1-99days
12: Temp Deviation	1°C	0.5°C,1°C,2°C,3°C
13: Display Precision	0.5°C	0.5°C,0.1°C
14: Operation Step	0.5°C	0.5°C,0.1°C,1°C
15: Reset	No	No/Yes
16: Display When Thermostat OFF	02	01: ShowOFF 02: ShowTemperature 03: Nothing
17: Temperature Unit	°C	°C/°F
18: Rail Control Time	1h	1h,2h,4h

Wiring Diagram



1. Live – 230V Supply
2. Neutral – 230V Supply
3. Neutral – Underfloor Heating
4. Neutral – Secondary Relay (for towel rail or demister)
5. Live – Underfloor Heating
6. Live – Secondary Relay (for towel rail or demister)
7. Earth – Common
8. Floor Sensor (not polarity sensitive)
9. Floor Sensor (not polarity sensitive)

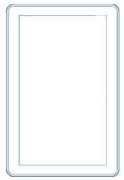
Sensor Failure

Error	Display	Cause
Error 1	Er1	Built-In sensor short-circuited or disconnected.
Error 2	Er2	External sensor short-circuited or disconnected.

When Er1/Er2 error, the thermostat must be checked until the error is eliminated.

Mounting Steps

1.



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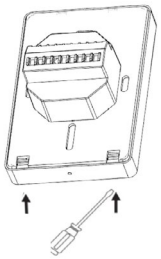

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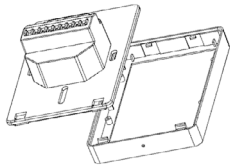

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Eco Dual Thermostat

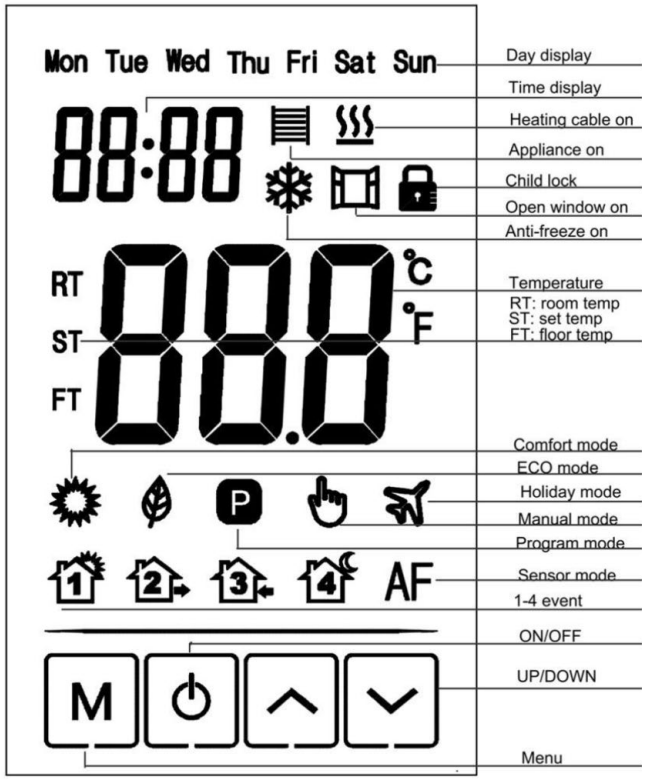
The ECO Dual Control Thermostat (ECO-DT-BWS-WHT) is a modern designed flush-mounting thermostat, equipped with a large stylish screen. It can control your underfloor heating system, plus an additional compatible heated towel rail allowing you to control both appliances from the one thermostat.

Carefully read this manual and ensure your thermostat is installed by a qualified electrician.

Parameter

Voltage	120V/230V
Power consumption	1W
UFH relay	Max 16A
Appliance relay	Max 5A
Setting range	5-60°
Protective range	IP20
Material	Anti-flammable P C / ABS
Compatible sensors	6.8kΩ, 10kΩ, 12kΩ, 15kΩ, 33kΩ (@ 25°C)
Application	Built-in sensor, floor sensor

Symbols Display



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Control Heated Towel Rail Only

Setting Heated Towel Rail Sensor

1. Turn on the screen
2. Press **M**.
3. Use the Arrows to select through Functions to Advanced Settings (F4), Select F4 by pressing **M**.
4. In advanced setting 01, Use ^ v to select sensor. Select 02 for built-in sensor to only control your Heated Towel Rail. Press **M** to confirm.

Setting timer

1. Press **M**, and continue Pressing **M** to select through different advanced Settings. Scroll to 18.
2. Use ^ v to select the timer time (1h, 2h or 4h). Press **M** to confirm.

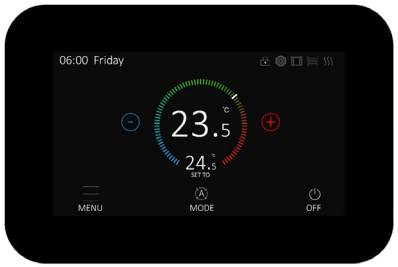
Turning ON your Heated Towel Rail

1. Hold ⏻ for 3 sec, a Heated Towel Rail symbol will appear. Your Rail is now ON. Your rail will automatically turn off with timer (if already set as per above).
2. Repeat Step 1, to turn off Manually.

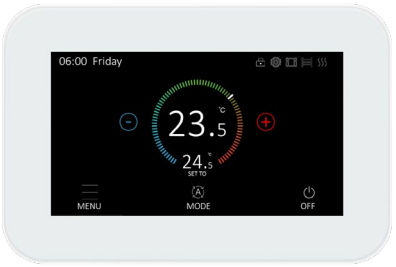
Advanced Settings

Item	Default Value	Setting Range
01: Sensor Selection	01	01: Built-in & floor limit 02: Built-in sensor 03: Floor sensor
02: Room Temperature Calibration	0°C	-5°C~5°C
03: Floor Temperature Calibration	0°C	-5°C~5°C
04: Floor Limit	35°C	5°C~60°C
05: Schedule	5-1-1	5-1-1/7
06: Adaptive Start	OFF	ON/OFF
07: Adaptive Start Time	20mins	0-40mins
08: Open window	OFF	ON/OFF
09: Sensor Type	10K	6.8K/10K/12K15K/33K
10: Anti-freeze Function	OFF	ON/OFF
11: Holiday Time	1day	1-99days
12: Temp Deviation	1°C	0.5°C,1°C,2°C,3°C
13: Display Precision	0.5°C	0.5°C,0.1°C
14: Operation Step	0.5°C	0.5°C,0.1°C,1°C
15: Reset	No	No/Yes
16: Display When Thermostat OFF	02	01: ShowOFF 02: ShowTemperature 03: Nothing
17: Temperature Unit	°C	°C/°F
18: Rail Control Time	1h	1h,2h,4h

Konnect Dual Thermostat



Black

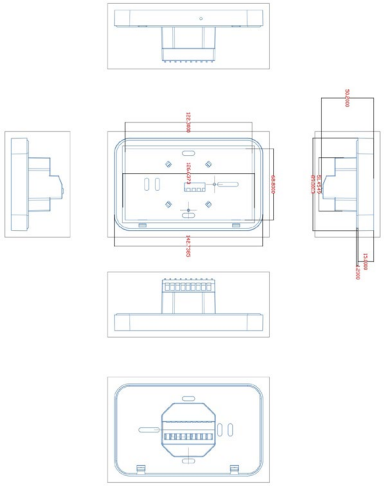


White

Technical Data

Supply voltage	230/240V 50/60Hz
Maximum load	16A (20A combined)
UFH relay	16A (3600W)
Appliance relay	5A (1125W)
Temperature range	5 ~ 35°C
Ambient	0 ~ 50°C
Compatible sensors*	6.8k , 10k , 12k , 15k , 33k
Accuracy	±0.5°C
IP rating	IP30
Width	142.5mm
Height	88.5mm
Depth	50mm (32mm in wall)

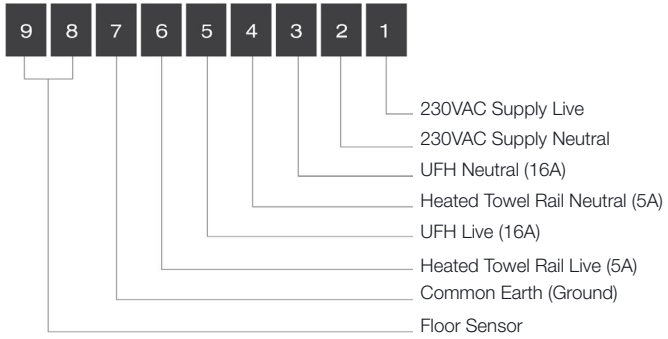
Line Drawings



Wiring diagram

Connect Dual Control Thermostat to the Underfloor Heating (UFH) cold leads, Heated Towel Rail, power supply and floor temperature sensor.

The floor temperature sensor is not polarity sensitive.



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Konnect Dual Thermostat

The Konnect Dual Thermostat (KON-DT-CLS-BLK & KON-DT-CLS-WHT) is a modern designed Thermostat, equipped with a large stylish coloured touch screen. It can control your underfloor heating system, plus an additional heated towel rail appliance allowing you to control both appliances from the one thermostat.

Under the advice of professional technicians, different parameters can be set in accordance with the different conditions of the room in which the thermostat is located. This will provide the most comfortable experience and the best energy consumption.

Technical Data

Supply voltage	120/130V ~ 50/60Hz
UFH relay	Max. 16A (Resistive Load)
Appliance relay	Max. 5A (Resistive Load)
Floor sensor type	10Ω (default), 6.8Ω, 12Ω, 15Ω, 33Ω @ 25°C
Ambient temperature	0-45°C
Room temperature	5-60°C
Floor temperature	5-60°C
Floor temperature limit	5-60°C
On/Off differential	±0.5°C
Storage temperature	-10°C to 50°C
IP class	IP30
Depth	50mm (32mm in wall)

Icons

Auto mode	Manual mode	Holiday model
Menu	On/Off	Heat
Towel rail heat	Key lock	Frost protection
Open window	Wake	Leave
Return	Sleep	

Er1 Internal Sensor Failure

Er2 External Floor Sensor Failure

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Konnect Dual Thermostat

Operation

1. Setting Temperature

In Auto Mode, setting temperature is only valid in the current event.

In Manual Mode, setting temperature is always valid.

In Holiday Mode, setting range is 5-20°C

1. Press +/- to enter ‘Setting Temperature’ on home screen.
2. Press +/- to select the required temperature.

2. Operating Mode

Auto Mode: Select Auto if you want the temperature to be controlled automatically via Program. The setting temperature is only valid in the current event.

Manual Mode: Select Manual to cancel the programmed event schedule and to set the required temperature manually. The setting temperature is always valid.

1. Press [Mode Icon] to enter ‘MODE’ on home screen.
2. Press [Manual Icon] to Enter ‘Setting Temperature’.
3. Press +/- to select the required temperature.

Holiday Mode: Select Holiday to save energy when you are away on Vacation. The setting temperature range is 5-20°C. You should set the return date. Until the return date, the thermostat runs by the set temperature. When the holiday ends, the thermostat will run in Auto Mode.

1. Press [Mode Icon] to enter ‘MODE’ on Home Screen.
2. Press [Holiday Icon], then press +/- to select the required temperature.
3. Select the Return date in Item 11 of Advanced Settings.

3. Time

Press [Menu Icon], enter ‘Time’ to set the current real time and day of the week by ^ or v.

4. Child Lock

The child lock prevents children and others from, tampering with the thermostat and changing any of its settings.

1. Press [Menu Icon], enter ‘Key Lock’ to lock.
2. Press [Menu Icon], enter ‘Key Lock’ to unlock.

4. Appliance Controls

Press [Menu Icon], enter ‘Towel Rack’ to turn on or off. Select the working time in the item 18 of advanced setting.

Konnect Dual Thermostat

6. Program

In Auto Mode, the thermostat allows you to control the temperature automatically according to a weekly schedule. On the schedule screen: If you work from Monday to Friday or from Monday to Saturday, you can choose **5+1+1**. If the Working hours are irregular every day, you can choose **7** (Select 5+1+1/7 in item 5 of Advanced Settings).

Choosing 5+1+1: The parameters are the same from Monday to Friday, suitable for people whose working hours are from Monday-Friday or Monday-Saturday.

Choosing 7: The parameters of each day can be set individually.

1. Press [Menu Icon] to enter 'Edit Setting'.
2. Press ^ & v to select the start & temperature.

Program Default Parameters

Day				
Mon-Fri	WAKE 06:00 21°C	LEAVE 08:30 18°C	BACK 17:00 21°C	SLEEP 23:00 18°C
Sat-Sun	WAKE 06:00 21°C	LEAVE 08:30 18°C	BACK 17:00 21°C	SLEEP 23:00 18°C

8. Advanced Settings

In additions to the above common functions, the thermostat also provides several settings for more occasions. Please note: These settings need to be set by professional technicians to avoid damage caused by abnormal settings.

1. Press [Menu Icon], enter 'Advanced Settings'
2. Tap ^ or v and select the options.

Item	Default Value	Setting Range
01: Sensor Selection	All	All/Room/Floor
02: Room Temperature Calibration	0°C	-5°C ~ 5°C
03: Floor Temperature Calibration	0°C	-5°C ~ 5°C
04: Floor Limit	35°C	5°C ~ 60°C
05: Schedule	5-1-1	5-1-1/7
06: Adaptive Start	Off	On/Off
07: Adaptive Start Time	20mins	0-40mins
08: Open Window	Off	On/Off
09: Sensor Type	10K	6.8k, 10k, 12k 15k, 33k
10: Anti-Freeze Function	Off	On/Off
11: Holiday Time	1 Day	1-99 Days
12: Temp Deviation	1°C	0.5°C, 0.1°C, 2°C, 3°C
13: Display Precision	0.5°C	0.5°C, 0.1°C
14: Operation Step	0.5°C	0.5°C, 0.1°C, 1°C
15: Display when Thermostat OFF	Show OFF	Show OFF/Show Temperature/Nothing
16: Temperature Unit	°C	°C/°F
17. Power On Mode	Keep	Keep/On/Off
18: Rail Control Time	1h	1h/2h/4h
19: Brightness	100%	30% ~ 100%
20: Factory Reset	No	No/Yes

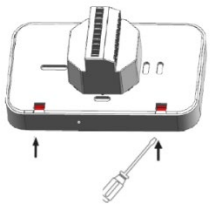
Konnect Dual Thermostat

Mounting Instructions

IMPORTANT: The floor sensor enables a more accurate temperature control. It's recommended in all floor heating applications and mandatory under wooden floors to reduce the risk of over-heating.

The thermostat should be mounted on the wall approx. 1.5m above the floor in such a way as to allow free air circulation around it. Draughts and direct sunlight or other heat sources must be avoided.

1.

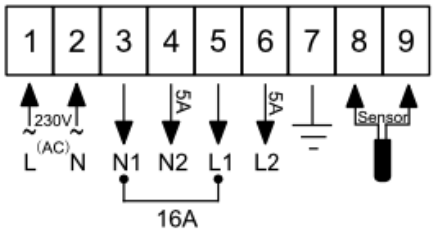


2.

3.

4.

Wiring Diagram



1. Live – 230V Supply
2. Neutral – 230V Supply
3. Neutral – Underfloor Heating
4. Neutral – Secondary Relay (for towel rail or demister)
5. Live – Underfloor Heating
6. Live – Secondary Relay (for towel rail or demister)
7. Earth – Common
8. Floor Sensor (not polarity sensitive)
9. Floor Sensor (not polarity sensitive)

Sensor Failure

Error	Display	Cause
Error 1	Er1	Built-In sensor short-circuited or disconnected.
Error 2	Er2	External sensor short-circuited or disconnected.

When Er1/Er2 error, the thermostat must be checked until the error is eliminated.

Compatibility

The Konnect Dual Control Thermostat is compatible with almost all electric Under Floor Heating (UFH) systems. The Konnect Dual Control Thermostat can replace your existing Underfloor Heating thermostat and is compatible with many of the most popular Thermostat brands' floor sensor probes including those rated at

- Ther 10Ω @ 25°C (Default Sensor)
- Tep 6.8Ω @ 25°C
- Ens 10Ω @ 25°C
- OJ 12Ω @25°C
- Devi 15Ω @25°C
- Eber 33Ω @25°C

Replacing an existing Thermostat? Contact the manufacturer's technical department and ask for the rating of the floor sensor at 25°C.

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Details of Installation Form

Please complete and keep safe for your records

LINSOL Head Office

Phone
1300 LINSOL

Email
service@linsol.com.au

Details of Installation

Electrician Name _____ Signature _____

Company Name _____

Company Address _____

Date

Rooms with heating installed _____

Total Wattage of System _____

Please list the product code and test results of each element after installation (compare to installation guide for rated resistance).

PRODUCT CODE	RESISTANCE RATING	INSULATION TEST PAST

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