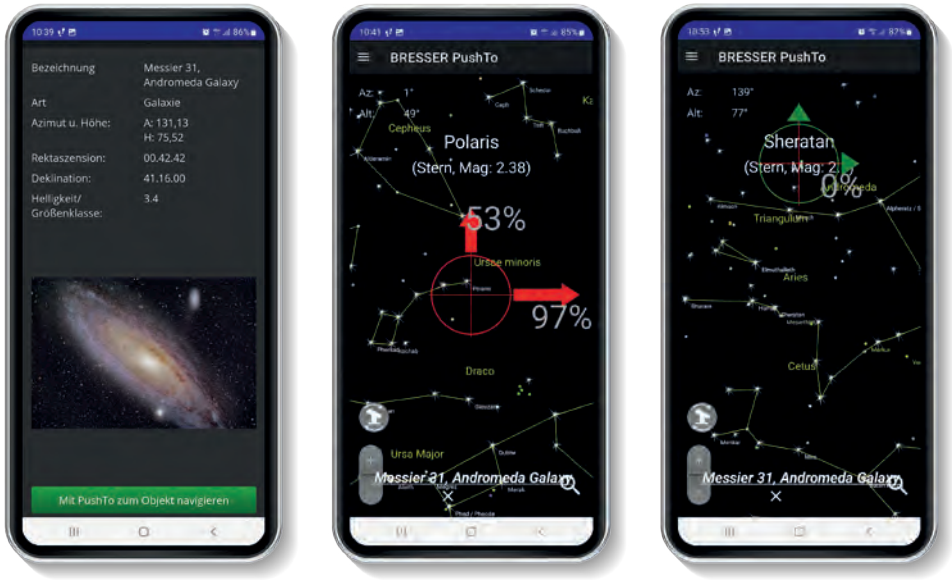
PushTo App

for BRESSER Smart Telescopes



DE APP INSTRUCTIONS FOR USE

Basic functions of the Bresser PushTo Telescope

The Bresser PushTo Telescope is suitable for observing nighttime celestial objects such as brighter stars, star clusters, the moon and planets, as well as observing the sun during the day.

Warning: For solar observation, always use the supplied objective solar filter. Otherwise, there is a risk of irreversible eye damage and blindness!

The Bresser PushTo App is used for manual control and navigation of the Bresser PushTo Telescope. After a short initialization procedure, the telescope is ready to use. Using the displayed star map, celestial objects can be quickly and easily located. The crosshair on the star map indicates the viewing direction of the telescope. Select your desired target object from the extensive object database and move the telescope using the target arrows in the appropriate direction until the target circle switches from red to green. Then the target object should also be visible in the eyepiece. Additional star tours are stored in the database, providing the most beautiful visible celestial objects depending on the season. These can be steered on and observed one after the other.

Download and install the PushTo App

The Bresser PushTo App is available for Windows® or ANDROID™ operating system. Follow the QR codes to download and install the app on your display device.

Windows®	ANDROID™
www.bresser.de/download/pushto/app/windows	www.bresser.de/download/pushto/app/android

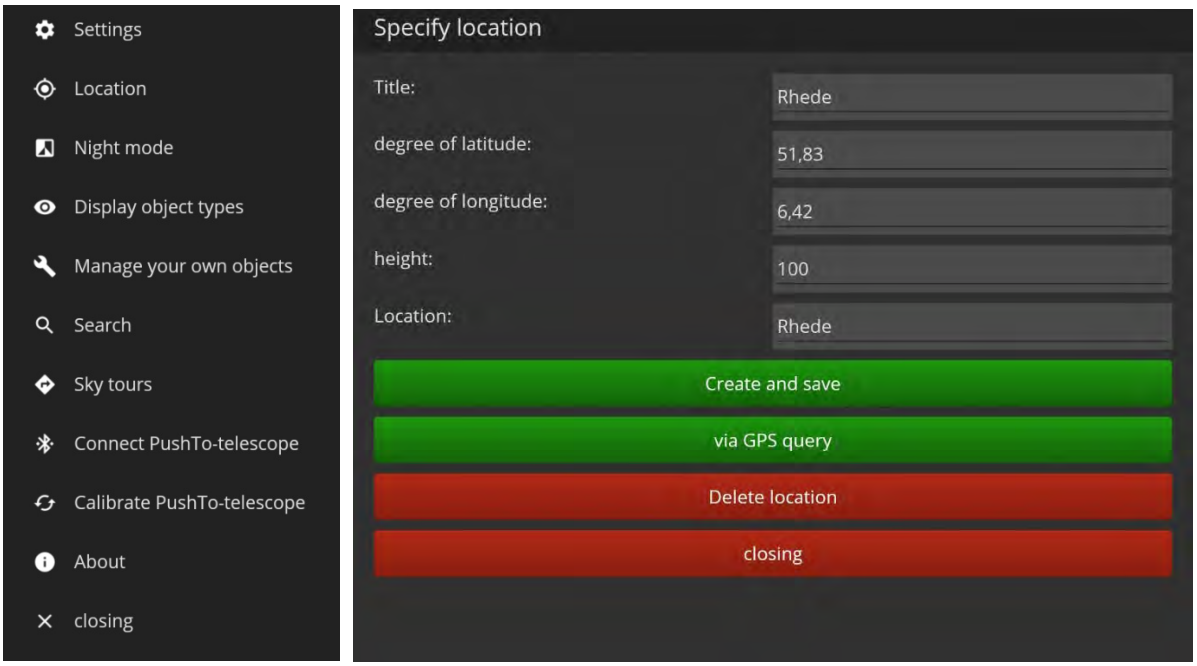
Setting up the PushTo system

Follow the instructions in the separate assembly and operating instructions to establish the Bluetooth connection and to set up and calibrate the telescope.

Basic functions of the Bresser PushTo App

Once you have calibrated the telescope, a wide range of celestial objects are available to you. The graphical representation of the starry sky on your device allows you to pan to any object listed.

Add location



- Menu > Location
- There are two ways to add the location:

    1. Add location using coordinates. Latitude/Longitude/Altitude
    Example of setting up your own location based on the city of Rhede
    Designation: Rhede
    Latitude: 51.83
    Longitude: Jun 42
    Altitude: 36

    NOTE: Latitude and longitude must be entered in decimal values with a point as the decimal separator!
    2. The location can also be recorded via GPS if your device has a GPS receiver.

In addition, under the menu item "Settings" and "Number of hours behind UT" you should check that the respective time zone of your observation location has been entered correctly and corrected if necessary. For Central Europe the correct setting would be = 1.

In addition, the information under the menu item "Summer time" must be checked and corrected if necessary.

In order not to impair the dark adaptation of the eyes during night observation, a night mode is integrated into the app. After turning on this setting, the controls will be colored red, which will not harm your eyes at night.

- To activate this feature navigate to the three dots menu in the top right corner.
- Find the Night Mode field > Click the drop-down menu and select Night Mode

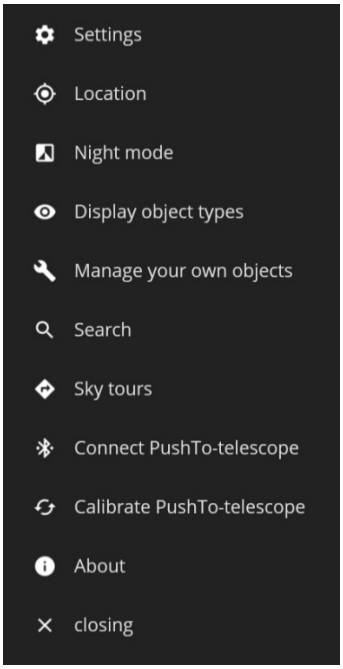
The PushTo App has its own range of colors that represent different celestial objects.

- White = stars
- Green = galaxies
- Orange = star cluster
- Purple = Fog
- Beige = binary stars/multiple star systems
- Red = own objects
- Yellow = planets

You can find this list under the three-dot menu in the top right corner. Under Display Object Types you can switch the desired objects on/off.

Manage and search your own objects

Since the app's database does not include all star catalogs and objects, you have the option of adding your own celestial objects to the app's database.



- Menu > Manage Own Objects
- You have two options:
    1. Create new object. Name/Declination/Right Ascension/Magnitude
    2. Own objects = List of added objects

What is declination and right ascension? (Manage your own objects)

Right Ascension (R.A): Right ascension is a term similar to longitude on Earth. The right ascension is measured in hours, minutes and seconds and ranges from 0 hours to 24 hours.

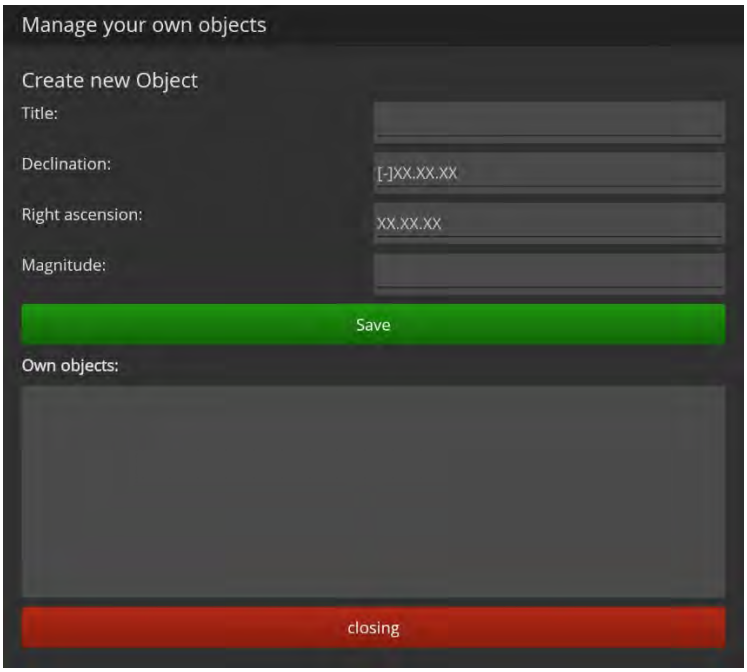
It indicates how far an object is east of the vernal equinox. The vernal equinox is simply the point where the sun rises.

Declination (DEC): Declination is a term that describes the distance between a celestial object and the celestial equator. The celestial equator is similar to the Earth's equator, except that it does not divide the Earth into two parts but the sky.

The declination is measured in degrees, if the value is positive then the celestial object lies north of the celestial equator and if the value is a negative number then it lies south of the celestial equator.

Create new object

To create your own object you need the name of the object, the right ascension, declination and the magnitude/brightness of your celestial object.

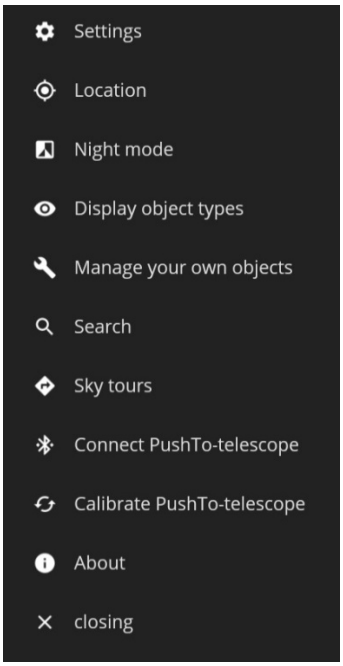


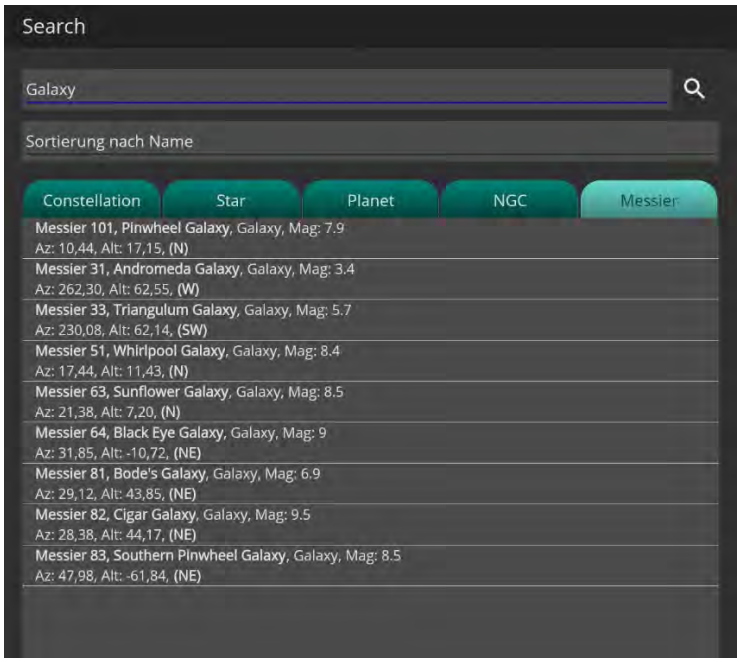
Example of creating your own object based on NGC 4038/39
Designation: NGC 4038/39; Antennae Galaxy
Declination (DEC): -18.59.56
Right Ascension (R.A): 12.03.04
Size class: 10.88

Please note that all information is required in degrees, hours, etc. In addition, only whole numbers and no decimal places should be entered. (Round decimal places up or down to the nearest whole number.)

Search for celestial objects

Using “Search”, you can search for celestial objects in the app database. The objects can be found sorted in the categories constellation, star, planet and the star catalogues Messier and NGC.





- Menu > Search
- Various search areas are available (constellation, star, planet or the star catalogs NGC and Messier)

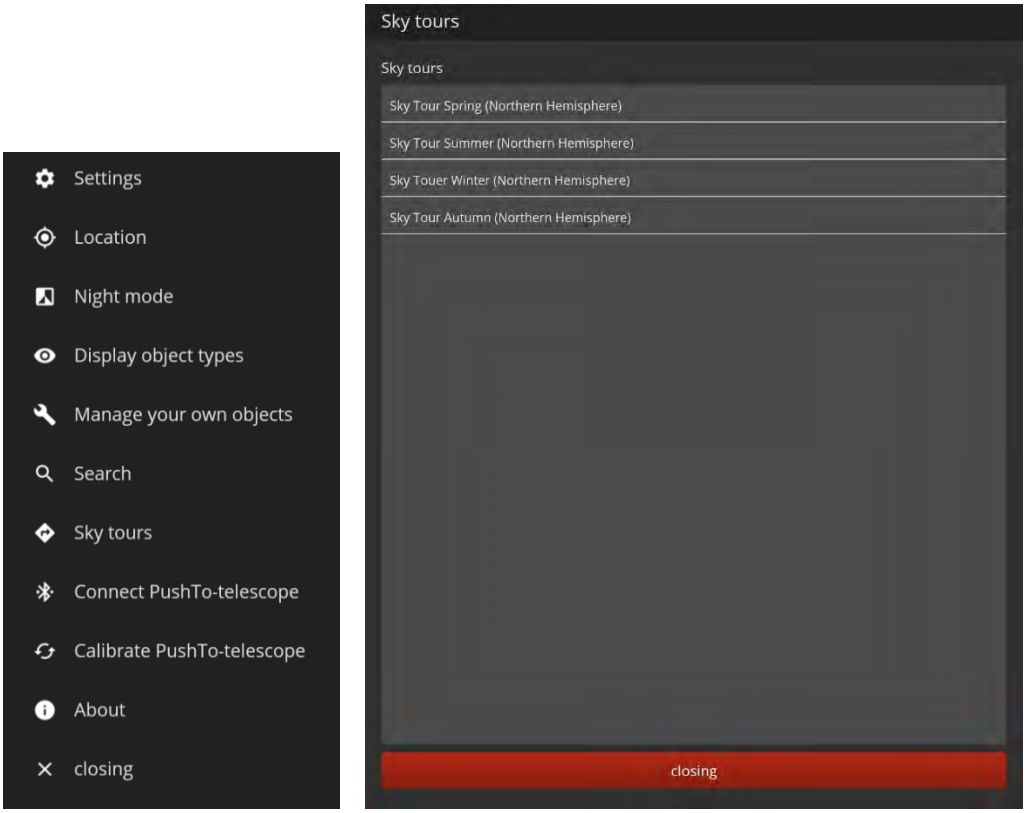
If you have decided on a particular celestial object, you can select the object and find its information about declination, right ascension, etc., but you can also press the green button > Navigate to the object with PushTo.

You will now see horizontal and vertical arrows that you can use the telescope to find your desired celestial object.

NOTE: Please note that the objects you add are not included in the regular search. To access these via PushTo, they must be accessed under the menu item "Manage your own objects". There you have to select the respective object in the list of added objects.

Sky tours

The Bresser PushTo App also offers so-called sky tours. Depending on the season, you will then have the opportunity to observe the most beautiful objects using a selection of celestial objects visible to the PushTo Telescope at the time of observation.



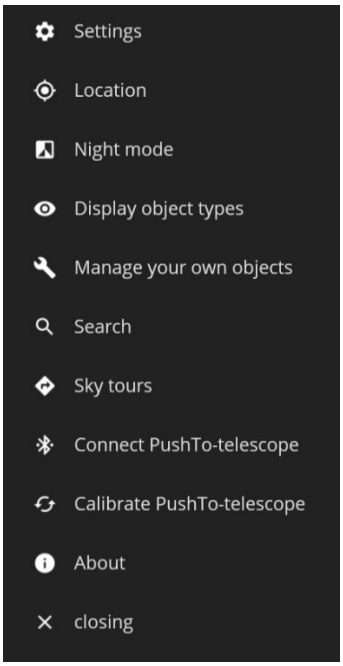
- Menu > Sky Tours
- You will then be shown the respective sky tours for spring, summer, winter and autumn.

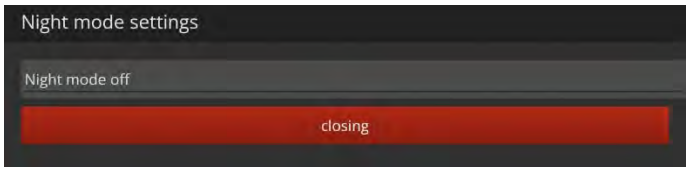
- After selecting a sky tour according to your season and selecting it, you will be shown a list of the celestial objects visible through the PushTo Telescope.
- After you press the green button, you start the sky tour. The software guides you intuitively through the starry sky using the PushTo system (see; line ... - ...). During a sky tour, you will also see a graphical control panel in the bottom center of the screen. This includes the Cancel function on the left, the pause function on the sky tour in the middle and the option to skip the respective object on the right.

  Note: You also have the option to start at any point in the list of celestial objects. All you have to do is select the respective object and then click the green button "Start sky tour from here".

Night mode

Enabling night mode adjusts the app display. In night mode, the entire display is darkened and particularly bright areas are dimmed. This largely prevents eye irritation when looking alternately at the display and through the eyepiece during nighttime sky observation.





- Menu > Night Mode
- Tap the [Night Mode on/off] button to enable or disable the night mode.

Synchronization

With the “Synchronization” function you can improve the accuracy of the PushTo Telescope during observation.

1. Use the "touch function" to tap an object on the star map with which you want to synchronize the telescope.
2. Confirm this by pressing the green "Synchronize telescope" button.
3. Move the telescope until the selected object appears in the center of the eyepiece.
4. Confirm the synchronization by pressing the [Sync] button on the star map.

Service

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Bei Fragen zum Produkt und eventuellen Reklamationen nehmen Sie bitte zunächst mit dem Service-Center Kontakt auf, vorzugsweise per E-Mail.

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Telefon*: +49 28 72 80 74 210

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*Lokale Rufnummer in Deutschland (Die Höhe der Gebühren je Telefonat ist abhängig vom Tarif Ihres Telefonanbieters); Anrufe aus dem Ausland sind mit höheren Kosten verbunden.

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Please contact the service centre first for any questions regarding the product or claims, preferably by e-mail.

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*Number charged at local rates in the UK (the amount you will be charged per phone call will depend on the tariff of your phone provider); calls from abroad will involve higher costs.

FR BE

Si vous avez des questions concernant ce produit ou en cas de réclamations, veuillez prendre contact avec notre centre de services (de préférence via e-mail).

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Als u met betrekking tot het product vragen of eventuele klachten heeft kunt u contact opnemen met het service centrum (bij voorkeur per e-mail).

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Si desea formular alguna pregunta sobre el producto o alguna eventual reclamación, le rogamos que se ponga en contacto con el centro de servicio técnico (de preferencia por e-mail).

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