

```

# Common configuration for PX4 autopilot
#
# node:
startup_px4_usb_quirk: true

# --- system plugins ---

# sys_status & sys_time connection options
conn:
  heartbeat_rate: 1.0    # send hertbeat rate in Hertz
  timeout: 10.0          # hertbeat timeout in seconds
  timesync_rate: 10.0    # TIMESYNC rate in Hertz (feature disabled if 0.0)
  system_time_rate: 1.0  # send system time to FCU rate in Hertz (disabled if 0.0)

# sys_status
sys:
  min_voltage: 10.0      # diagnostics min voltage
  disable_diag: false    # disable all sys_status diagnostics, except heartbeat

# sys_time
time:
  time_ref_source: "fcu" # time_reference source
  timesync_mode: MAVLINK
  timesync_avg_alpha: 0.6 # timesync averaging factor

# --- mavros plugins (alphabetical order) ---

# 3dr_radio
tdr_radio:
  low_rssi: 40 # raw rssi lower level for diagnostics

# actuator_control
# None

# command
cmd:
  use_comp_id_system_control: false # quirk for some old FCUs

# dummy
# None

# ftp
# None

# global_position
global_position:
  frame_id: "map"          # origin frame
  child_frame_id: "base_link" # body-fixed frame
  rot_covariance: 99999.0  # covariance for attitude?
  gps_uere: 1.0            # User Equivalent Range Error (UERE) of GPS sensor (m)

```

```

use_relative_alt: true    # use relative altitude for local coordinates
tf:
  send: false            # send TF?
  frame_id: "map"        # TF frame_id
  global_frame_id: "earth" # TF earth frame_id
  child_frame_id: "base_link" # TF child_frame_id

# imu_pub
imu:
  frame_id: "base_link"
  # need find actual values
  linear_acceleration_stdev: 0.0003
  angular_velocity_stdev: 0.0003490659 // 0.02 degrees
  orientation_stdev: 1.0
  magnetic_stdev: 0.0

# local_position
local_position:
  frame_id: "map"
  tf:
    send: false
    frame_id: "map"
    child_frame_id: "base_link"
    send_fcu: false

# param
# None, used for FCU params

# rc_io
# None

# safety_area
safety_area:
  p1: {x: 1.0, y: 1.0, z: 1.0}
  p2: {x: -1.0, y: -1.0, z: -1.0}

# setpoint_accel
setpoint_accel:
  send_force: false

# setpoint_attitude
setpoint_attitude:
  reverse_thrust: false    # allow reversed thrust
  use_quaternion: false    # enable PoseStamped topic subscriber
  tf:
    listen: false         # enable tf listener (disable topic subscribers)
    frame_id: "map"
    child_frame_id: "target_attitude"
    rate_limit: 50.0

```

```

setpoint_raw:
  thrust_scaling: 1.0      # used in setpoint_raw attitude callback.
  # Note: PX4 expects normalized thrust values between 0 and 1, which means that
  # the scaling needs to be unitary and the inputs should be 0..1 as well.

# setpoint_position
setpoint_position:
  tf:
    listen: false          # enable tf listener (disable topic subscribers)
    frame_id: "map"
    child_frame_id: "target_position"
    rate_limit: 50.0
  mav_frame: LOCAL_NED

# setpoint_velocity
setpoint_velocity:
  mav_frame: LOCAL_NED

# vfr_hud
# None

# waypoint
mission:
  pull_after_gcs: true    # update mission if gcs updates
  use_mission_item_int: true # use the MISSION_ITEM_INT message instead of
MISSION_ITEM
                                # for uploading waypoints to FCU

# --- mavros extras plugins (same order) ---

# adsb
# None

# debug_value
# None

# distance_sensor
## Currently available orientations:
#   Check http://wiki.ros.org/mavros/Enumerations
##
distance_sensor:
  hrlv_ez4_pub:
    id: 0
    frame_id: "hrlv_ez4_sonar"
    orientation: PITCH_270 # RPY:{0.0, 270.0, 0.0} - downward-facing
    field_of_view: 0.0    # XXX TODO
    send_tf: true
    sensor_position: {x: 0.0, y: 0.0, z: -0.1}
  lidarlite_pub:
    id: 1

```

```

    frame_id: "lidarlite_laser"
    orientation: PITCH_270
    field_of_view: 0.0 # XXX TODO
    send_tf: true
    sensor_position: {x: 0.0, y: 0.0, z: -0.1}
sonar_1_sub:
    subscriber: true
    id: 2
    orientation: PITCH_270
laser_1_sub:
    subscriber: true
    id: 3
    orientation: PITCH_270

# image_pub
image:
    frame_id: "px4flow"

# fake_gps
fake_gps:
    # select data source
    use_mocap: true           # ~mocap/pose
    mocap_transform: true     # ~mocap/tf instead of pose
    use_vision: false         # ~vision (pose)
    # origin (default: Zürich)
    geo_origin:
        lat: 47.3667          # latitude [degrees]
        lon: 8.5500           # longitude [degrees]
        alt: 408.0            # altitude (height over the WGS-84 ellipsoid) [meters]
    eph: 2.0
    epv: 2.0
    satellites_visible: 5     # virtual number of visible satellites
    fix_type: 3               # type of GPS fix (default: 3D)
    tf:
        listen: false
        send: false           # send TF?
        frame_id: "map"        # TF frame_id
        child_frame_id: "fix"  # TF child_frame_id
        rate_limit: 10.0       # TF rate
    gps_rate: 5.0             # GPS data publishing rate

# landing_target
landing_target:
    listen_lt: false
    mav_frame: "LOCAL_NED"
    land_target_type: "VISION_FIDUCIAL"
    image:
        width: 640            # [pixels]
        height: 480
    camera:

```

```

    fov_x: 2.0071286398    # default: 115 [degrees]
    fov_y: 2.0071286398
tf:
    send: true
    listen: false
    frame_id: "landing_target"
    child_frame_id: "camera_center"
    rate_limit: 10.0
    target_size: {x: 0.3, y: 0.3}

# mocap_pose_estimate
mocap:
    # select mocap source
    use_tf: false    # ~mocap/tf
    use_pose: true   # ~mocap/pose

# odom
odometry:
    fcu:
        odom_parent_id_des: "map"    # desired parent frame rotation of the FCU's
odometry
        odom_child_id_des: "base_link"    # desired child frame rotation of the FCU's
odometry

# px4flow
px4flow:
    frame_id: "px4flow"
    ranger_fov: 0.118682    # 6.8 degrees at 5 meters, 31 degrees at 1 meter
    ranger_min_range: 0.3    # meters
    ranger_max_range: 5.0    # meters

# vision_pose_estimate
vision_pose:
    tf:
        listen: false    # enable tf listener (disable topic subscribers)
        frame_id: "odom"
        child_frame_id: "vision_estimate"
        rate_limit: 10.0

# vision_speed_estimate
vision_speed:
    listen_twist: true    # enable listen to twist topic, else listen to vec3d topic
    twist_cov: true    # enable listen to twist with covariance topic

# vibration
vibration:
    frame_id: "base_link"

# wheel_odometry
wheel_odometry:

```

```

    count: 2          # number of wheels to compute odometry
    use_rpm: false     # use wheel's RPM instead of cumulative distance to compute
odometry
    wheel0: {x: 0.0, y: -0.15, radius: 0.05} # x-, y-offset (m,NED) and radius (m)
    wheel1: {x: 0.0, y: 0.15, radius: 0.05} # x-, y-offset (m,NED) and radius (m)
    send_raw: true     # send wheel's RPM and cumulative distance
(~/wheel_odometry/rpm, ~/wheel_odometry/distance)
    send_twist: false  # send geometry_msgs/TwistWithCovarianceStamped
instead of nav_msgs/Odometry
    frame_id: "odom"   # origin frame
    child_frame_id: "base_link" # body-fixed frame
    vel_error: 0.1     # wheel velocity measurement error 1-std (m/s)
tf:
    send: false
    frame_id: "odom"
    child_frame_id: "base_link"

# vim:set ts=2 sw=2 et:

```