

Woosh Robot Data Dictionary

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Dispatch customization project related [woosh.custom]

Dispatch customization project related

Anchor

UWB site related data [woosh.device.beacon]

UWB site related data

Beacon

Field	Type	Description
id	uint32	Device ID
power	float	Battery level
time	int32	Update time

Beacons

Field	Type	Description
beacons	Beacon	repeated

Callbox-related data [woosh.device.callbox]

Callbox-related data

Call

Call

Field	Type	Description
event	CallEvent	

CallEvent

Call event

Field	Type	Description
no	string	Callbox number
key	uint32	Key ID
type	CallEvent.Type	Type

Callbox

Callbox

Field	Type	Description
no	string	Callbox number (unique)
key_num	uint32	Number of keys
online	bool	Online status
state	State	Callbox state
keys	Callbox.Key	repeated Set of keys

Callbox.Key

Field	Type	Description
id	uint32	Key ID

Field	Type	Description
state	CallState	Call state
tset_id	int32	Task set ID bound to the call box
task_id	int32	Task ID bound to the call box
time	int32	Status update time

Callboxes

Call box list

Field	Type	Description
callboxes	Callbox	repeated

Caller

Call box

Field	Type	Description
no	string	Number (unique)
key	uint32	Key ID
state	CallState	Call state
tset_id	int32	Task set ID bound to the call box
task_id	int32	Task ID bound to the call box
time	int32	Status update time

Callers

Call box list

Field	Type	Description
callers	Caller	repeated

Offline

Call box online

Field	Type	Description
no	string	

Online

Call box online

Field	Type	Description
callbox	Callbox	

WISE

Advantech WISE series

Field	Type	Description
ip	string	Module IP
port	uint32	Port, default 502
slave	uint32	Slave ID
models	WISE.Model	repeated
no	string	Number (unique)

WISE.Model

Model

Field	Type	Description
coil	WISE.Model.Coil	

Field	Type	Description
type2	WISE.Model.ModelType2	

WISE.Model.Coil

Simple coil status detection

Field	Type	Description
base_addr	uint32	Starting address (coils only)
base_key	uint32	Starting key ID
length	uint32	Read length (key_num)

WISE.Model.ModelType2

Field	Type	Description
base_addr	uint32	Starting address
length	uint32	Read length
type	WISE.Model.ModelType2.Type	
base_key	uint32	Starting key ID

WISES

Field	Type	Description
wises	WISE	repeated

CallEvent.Type

Event type

Name	Number	Description
kUp	0	Released
kDown	1	Pressed
kPress	2	Long press
kChanged	10	Changed (detector, controller)

CallState

Call status

Name	Number	Description
kCallStateUndefined	0	Undefined
kUntriggered	1	Untriggered (off)
kTriggered	2	Triggered (slow flash)
kPaired	3	Paired (slow flash)
kExecuting	4	Executing (steady on)
kPause	5	Paused (fast flash)

State

Call box status

Name	Number	Description
kStateUndefined	0	Undefined
kNormal	1	Normal
kHardwareEx	2	Hardware exception
kSoftwareEx	3	Software exception
kConfigEx	4	Configuration exception

WISE.Model.ModelType2.Type

Name	Number	Description
kDiscreteOutput	0	Discrete output (coil)
kDiscreteInput	1	Discrete input
kInputRegister	2	Input register
kHoldingRegister	3	Holding register

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Sensor-related data [woosh.device.sensor]

Sensor-related data

Fire

Fire alarm information

Field	Type	Description
warn	bool	Warning
drill	bool	Drill

FireTime

Fire alarm shielding time

Field	Type	Description
start_time	int32	Time at the start of timing
remain_time	int32	Remaining time for counting

GetFireInfo

GetFireTimeInfo

GetLiftInfo

Lift

Elevator

Field	Type	Description
grating	bool	Grating status

SetFireTimeInfo

Field	Type	Description
ftime	FireTime	Fire alarm shielding time setting

Operation statistics dashboard related [woosh.dispatch.kanban]

Operation statistics dashboard related

AbnormalCount

Abnormal statistics

Field	Type	Description
warn	uint32	Warnings (count)
fault	uint32	Faults (count)
warn_time	uint32	Warning time (seconds)
fault_time	uint32	Fault time (seconds)

Abnormals

Exception information collection

Field	Type	Description
robots	uint32	repeated List of robots, empty if all
bucket	woosh.common.TimeBucket	Time period
page	int32	Pagination, return the first 0 page with 100 records if not specified
qty	int32	Total quantity
abns	woosh.robot.count.Status	repeated

DailyTask

Daily task statistics

Field	Type	Description
day	string	Date (yyyy-mm-dd)
completed	uint32	Number of completed tasks
failed	uint32	Number of failed tasks

Field	Type	Description
total	uint32	Total number of tasks

DailyTasks

Daily task statistics collection

Field	Type	Description
days	DailyTask	repeated

Reliability

Robot reliability

Field	Type	Description
mttr	uint32	Total repair time/number of repairs, if number of repairs is 0, then MTTR=0 (seconds)
mtbf	uint32	(Operating time - downtime)/number of failures, if number of failures is 0, then MTBF=0 (seconds)

RobotOperation

Robot operation statistics

Field	Type	Description
robot	uint32	Robot ID
uptime	uint32	Operating time
mileage	uint32	Accumulated mileage
last_time	int32	Last calculation time (operating time up to this time)
task_time	uint32	Task duration
abn_count	AbnormalCount	Abnormal count
abn_rate	uint32	Failure rate (abnormal duration/operating duration*100)

Field	Type	Description
task_rate	uint32	Task rate (task duration/operating duration*100)
rel	Reliability	Reliability

RobotOperations

Robot operation statistics collection

Field	Type	Description
robots	uint32	repeated List of robots, empty if all
bucket	woosh.common.TimeBucket	Time period (accurate to the day)
ops	RobotOperation	repeated

RobotTaskCount

Robot task statistics

Field	Type	Description
robot	uint32	Robot ID
count	TaskCount	Count

RobotTaskCounts

Robot task statistics collection

Field	Type	Description
robots	uint32	repeated List of robots, empty if all
bucket	woosh.common.TimeBucket	Time period
count	TaskCount	Task count (all)
counts	RobotTaskCount	repeated

RobotTimeline

Robot timeline

RouteAvg

Average time per route

Field	Type	Description
route	string	Route
sum	uint32	Total time (seconds)
num	uint32	Number of tasks

RouteAvs

Collection of average time per task route

Field	Type	Description
robots	uint32	repeated List of robots, empty if all
bucket	woosh.common.TimeBucket	Time period
avgs	RouteAvg	repeated

TaskCount

Task count (all)

Field	Type	Description
completed	uint32	Number of completed tasks
failed	uint32	Number of failed tasks
total	uint32	Total number of tasks

Dispatch robot data [woosh.dispatch.robot]

Dispatch robot data

Activity

Robot activity records

Field	Type	Description
id	uint32	Robot ID
state	Activity.State	State
time	int32	Time
power	uint32	battery percentage
mileage	uint32	accumulated mileage, unit: m

Activitys

Robot activity record set

Field	Type	Description
activitys	Activity	repeated

Robot

Robot information in the dispatch system

Field	Type	Description
id	uint32	Robot ID

Field	Type	Description
signout	bool	TRUE when the robot signs out of the dispatch system
schedulable	bool	whether it can be scheduled
commu	Robot.Commu	connection information
task_set_id	int32	task set ID
task	woosh.task.TaskBase	task being executed
dest	woosh.common.Pose	destination

Robot.Commu

Connection information

Field	Type	Description
ip	string	Robot IP
port	int32	Port
online	bool	Online status
time	int32	Status update time

RobotAnyInfo

Robot-specific type information

Field	Type	Description
id	uint32	Robot ID
type	RobotAnyInfo.Type	Request information type
info	google.protobuf.Any	Robot information

Robots

Robot list

Field	Type	Description
robots	Robot	repeated Robot list

Activity.State

Name	Number	Description
kOnline	0	Online
kOffline	1	Offline
kConnected	2	Connected
kDisconnected	3	Disconnected
kDropped	4	Dropped (offline due to timeout)

RobotAnyInfo.Type

Name	Number	Description
kAll	0	All(RobotInfo)
kGeneral	1	General Information(RobotGeneralInfo)
kSetting	2	Setting Information(RobotSettingInfo)
kSence	3	Scene Information(RobotSceneInfo)
kCtrlMode	4	Control Mode Information(RobotControlModeInfo)
kState	5	Robot State(RobotState)
kTask	6	Task Information(RobotTaskInfo)
kPoseSpeed	7	Pose Speed(RobotPoseSpeed)
kBattery	8	Battery Information(RobotBatteryInfo)
kNetwork	9	Network Information(RobotNetworkInfo)
kDeviceState	10	Device State(RobotDeviceState)
kProgramState	11	Program state (RobotProgramState)

Name	Number	Description
kHardwareState	12	Hardware state (RobotHardwareState)
kStatusCodes	50	Recent status codes (StatusCodeInfoList)
kRobotModel	52	Robot model (RobotModel)
kAbnormalCodes	53	Recent abnormal codes (AbnormalCodes)

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System configuration related [woosh.dispatch.system]

System configuration related

ChargeSettings

Charging settings

Field	Type	Description
settings	ChargeSettings.Setting	repeated Charging configuration table
order	ChargeSettings.Order	Instruction

ChargeSettings.Setting

Field	Type	Description
level	uint32	Automatic charging level, 0: dispatch does not autonomously charge, 1: autonomous charging, 2: dispatch can only specify charging
guard_power	uint32	Guard power
low_power	uint32	Low power
work_power	uint32	Work power
full_power	uint32	Full power

Field	Type	Description
time	int32	Time period, 9:30 to 14:30 (09301430)

GetPos

Get storage position

Field	Type	Description
no	string	Number
pose	woosh.common.Pose	Position

GotoCharge

Specify robot charging

Field	Type	Description
robot	uint32	Robot ID
no	string	Charging station number (can be empty)

PacAccount

Parking charging record

Field	Type	Description
id	uint32	Mark point ID
no	string	Number
type	PacAccount.Type	Type
state	PacAccount.State	State
robot	uint32	Robot ID
tset_id	int32	Task ID

PacAccountList

Parking and Charging Record Table

Field	Type	Description
accounts	PacAccount	repeated Parking and Charging Status

PrintLevel

Log Print Level

Field	Type	Description
level	PrintLevel.Level	Log Level

Scene

Scene

Field	Type	Description
scene	string	Scene Name
version	int64	Map Version
maps	Scene.Map	repeated map

Scene.Map

Map information

Field	Type	Description
id	uint32	Map ID
name	string	Map name
resolution	float	Map resolution
origin	woosh.common.Pose2D	Origin coordinates

Field	Type	Description
end	woosh.common.Pose2D	Mapping end point

SceneSettings

Get current scene

Field	Type	Description
name	string	Current scene

SwitchScene

Switch scene

Field	Type	Description
name	string	Scene name

ChargeSettings.Order

Name	Number	Description
kGet	0	Get configuration
kPut	1	Modify or add configuration
kDel	2	Delete configuration

PacAccount.State

Name	Number	Description
kIdle	0	Idle
kTransiting	1	In transit
kOccupy	2	Occupied

PacAccount.Type

Name	Number	Description
kPark	0	Parking space
kCharger	1	Charging pile

PrintLevel.Level

Name	Number	Description
kTrace	0	
kDebug	1	
kInfo	2	
kWarn	3	
kErr	4	
kCritical	5	
kOff	6	

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Task Execution Related [woosh.dispatch.task]

Task Execution Related

AddTask

Add task

Field	Type	Description
tset	woosh.task.TaskSet	Task set

ExecPreTask

Execute predefined tasks

Field	Type	Description
task_set_id	int32	Task set ID (predefined)
robot	uint32	Robot ID
repeat_times	int32	Repeat times
order	ExecPreTask.Order	
tset_id	int32	Task set ID for current loop

ExecPreTasks

Currently executing predefined task set

Field	Type	Description
tasks	ExecPreTask	repeated

FindTask

Search task

Field	Type	Description
id	int32	Task set ID
state	FindTask.State	Task set status condition query
time	FindTask.Time	Task generation time (s) range query
sort	FindTask.ToSort	Sorting method
robot	uint32	Robot ID, if not specified, return all robot tasks
route	string	Route, search for tasks in specified business line
only_external	bool	Only return external tasks (filter internal tasks such as parking and charging)
page	int32	Pagination, return page 0 if not specified

FindTask.State

Task set status query

Field	Type	Description
gte	woosh.task.TaskSetState	Greater than or equal to
lte	woosh.task.TaskSetState	Less than or equal to

FindTask.Time

Time range query

Field	Type	Description
gte	int32	Greater than or equal to
lte	int32	Less than or equal to

StickTask

Stickied task

Field	Type	Description
id	int32	Task set ID
unstick	bool	Unstick

TaskOrder

Task command

Field	Type	Description
id	int32	Task set ID (choose one)
robot	uint32	Robot ID (choose one)
task_id	uint32	Task ID

Field	Type	Description
order	woosh.task.Order	Instruction

TaskSetState

Task set status

Field	Type	Description
tset	woosh.task.TaskSet	Task group

TaskState

Task status

Field	Type	Description
id	int32	Task set ID
task_id	int32	Task ID
state	woosh.task.State	Status
action_wait_id	int32	Action wait ID

ExecPreTask.Order

Name	Number	Description
kAdd	0	Add
kDel	1	Delete

FindTask.ToSort

Sorting method

Name	Number	Description
kTaskSetID_Desc	0	Task set ID descending
kTaskSetID_Asc	1	Task Set ID Ascending Order
kTimeEnd_Desc	2	Task End Time Descending Order
kTimeEnd_Asc	3	Task End Time Ascending Order

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Map Data [woosh.map]

Map Data

Delete

Delete Scene or Map

Field	Type	Description
scene_name	string	Scene Name
map_name	string	Map Name

Download

Download Map

Field	Type	Description
scene_name	string	Scene Name

DownloadResponse

Download Map Response

Field	Type	Description
file_datas	woosh.common.FileData	repeated All Files in the Scene

Rename

Modify Map or Scene Name

Field	Type	Description
old_scene_name	string	Old Scene Name
new_scene_name	string	New Scene Name
old_map_name	string	Old map name
new_map_name	string	New map name

SceneData

Scene data

Field	Type	Description
name	string	Scene name
maps	SceneData.Map	repeated Map information data
task_info	woosh.task.TaskInfo	task_info.data
action_group	string	Action group JSON

SceneData.Map

Map Data

Field	Type	Description
id	uint32	Map ID

Field	Type	Description
name	string	Map name
resolution	float	Map resolution
origin	woosh.common.Pose2D	Origin coordinates
end	woosh.common.Pose2D	Mapping end point
map_png	bytes	Map PNG
keepout_png	bytes	Navigation keepout PNG
traffic_keepout_png	bytes	Traffic keepout PNG
mark_info	mark.MarkInfo	mark_info.data
field_info	field.FieldInfo	field_info.data
path_info	path.PathInfo	path_info.data
time_write	string	Time when the file was last modified

SceneDataEasy

Simple version of scene data

Field	Type	Description
name	string	Scene name
maps	SceneDataEasy.Map	repeated Map information data

SceneDataEasy.Map

Map Data

Field	Type	Description
id	uint32	Map ID
name	string	Map name
floor	string	Floor name
version	int64	Map Version
storages	mark.Storages	Storage set

SceneFileMD5

Scene file MD5

Field	Type	Description
scene_name	string	Scene Name
scenes_md5s	woosh.common.FileMD5	repeated MD5 of other files under the scene
maps	SceneFileMD5.MapFileInfo	repeated All map information under the scene

SceneFileMD5.MapFileInfo

Field	Type	Description
map_name	string	Map Name
version	uint32	Map data version number
map_md5s	woosh.common.FileMD5	repeated MD5 of all map files

SceneList

Scene list

Field	Type	Description
scenes	SceneList.Scene	repeated List of all scene map information

SceneList.Scene

Scene

Field	Type	Description
name	string	Scene name

Field	Type	Description
maps	string	repeated List of maps

SceneMd5

Scene MD5

Field	Type	Description
scene_name	string	Scene name, return all if not specified

SceneMd5Response

Scene MD5 response

Field	Type	Description
scenes	SceneFileMD5	repeated Information of all scene files

SceneSync

Scene synchronization

Field	Type	Description
scenes	SceneFileMD5	repeated Information of differential scene files

SceneSyncResponse

Scene synchronization response

Field	Type	Description
file_datas	woosh.common.FileData	repeated Map data

Upload

Upload map

Field	Type	Description
scene_name	string	Scene Name
file_datas	woosh.common.FileData	repeated Map files to be updated
method	Upload.Method	

Upload.Method

Name	Number	Description
kIncr	0	Incremental
kFull	1	Full

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Mark point related data structure [woosh.map.mark]

Mark point related data structure

ARTag

QR code

Field	Type	Description
id	uint32	ID
pose	woosh.common.Pose2D	Pose

Beacon

Beacon

Field	Type	Description
id	uint32	Beacon's Mac address
group	Beacon.Group	repeated All group information of the Beacon
point	woosh.common.Point	position

Beacon.Group

Field	Type	Description
group_id	fixed32	ID of the Beacon group
max_range	float	maximum distance of the Beacon belonging to this group

Dock

Docking

Field	Type	Description
identify	Dock.Identify	
verify	Dock.Verify	verification
board_type	Dock.FeatureBoardType	type of feature board
tag	string	identification tag

Dock.Identify

Identification before docking

Field	Type	Description
artag	uint32	QR code (1~99)

Field	Type	Description
rfid	uint64	RFID identification ID

Dock.Verify

Validation after docking

Field	Type	Description
top_photoelec	bool	Top photoelectric
bottom_magnetic	bool	Bottom magnetic strip
back_feature	bool	Back feature
bottom_artag	bool	Bottom QR code

Identity

Identification related

Field	Type	Description
id	uint32	ID (unique)
no	string	Number (unique)
desc	string	Description

MarkInfo

Marker point information

Field	Type	Description
version	int64	Map data version number, incremented by 1 each time it is uploaded
sdkv	string	SDK version
floor_name	string	Floor name
storages	Storage	repeated Storage array

Field	Type	Description
wormholes	Wormhole	repeated Wormhole array
beacons	Beacon	repeated Beacon array
artags	ARTag	repeated QR code array
reflectors	Reflector	repeated Reflector array

Navigation

Navigation-related

Field	Type	Description
arr	woosh.nav.ArrType	Navigation arrival type

Pose

Pose-related

Field	Type	Description
dock	woosh.common.Pose2D	Docking point coordinates
real	woosh.common.Pose2D	Actual coordinates
adjust	Pose.Adjust	Adjustment point

Pose.Adjust

Adjustment point (when the navigation cannot reach the docking point, it needs to be set)

Field	Type	Description
pose	woosh.common.Pose2D	Adjustment point coordinates

Reflector

Reflective board

Field	Type	Description
id	uint32	ID
pose	woosh.common.Pose2D	Pose
group	fixed32	repeated Group

Storage

Storage location

Field	Type	Description
identity	Identity	Identifier
pose	Pose	Pose
nav	Navigation	Navigation
dock	Dock	Dock
custom	bytes	Custom field
rack	Storage.Rack	Rack
parkspot	Storage.Parkspot	Parking spot
charger	Storage.Charger	Charging station
pallet_platform	Storage.PalletPlatform	Pallet platform
lift_trolley	Storage.LiftTrolley	Lift trolley
tractor_trailer	Storage.TractorTrailer	Tractor trailer
roller_station	Storage.RollerStation	Roller station
arm_worktop	Storage.ArmWorktop	Arm worktop

Storage.ArmWorktop

Arm worktop (machine)

Storage.Charger

Charging station

Field	Type	Description
parking	bool	Allow parking
robots	uint32	repeated Robot IDs allowed for parking

Storage.LiftTrolley

Lifting trolley

Storage.PalletPlatform

Pallet platform

Field	Type	Description
detector	string	Goods detection (mac:key)

Storage.Parkspot

Parking space

Field	Type	Description
robots	uint32	repeated Robot IDs allowed for parking

Storage.Rack

Shelf

Field	Type	Description
numbers	string	repeated Shelf numbers

Storage.RollerStation

Roller pile

Field	Type	Description
mode	Storage.RollerStation.RollerMode	Roller control connection mode

Storage.TractorTrailer

Trailer

Storages

Storage location collection

Field	Type	Description
bases	Storages.Base	repeated Most basic storage location
racks	Storages.Base	repeated Racks
parkspots	Storages.Base	repeated Parking spots
chargers	Storages.Base	repeated Charging stations
pallet_platforms	Storages.Base	repeated Pallet platforms
lift_trolleys	Storages.Base	repeated Lift Trolleys
tractor_trailers	Storages.Base	repeated Tractor Trailers
roller_stations	Storages.Base	repeated Roller Stations
arm_worktops	Storages.Base	repeated Arm Worktops

Storages.Base

Field	Type	Description
identity	Identity	Identifier
pose	Pose	Pose
custom	bytes	Custom field

Wormhole

Wormhole

Field	Type	Description
identity	Identity	Identifier
pose	Pose	Pose
nav	Navigation	Navigation
token	string	Same token can be used for interconnecting wormholes
reach_maps	uint32	repeated Map IDs that the wormhole can reach
wormhole_field	uint32	Wormhole field
ferry_field	uint32	Ferry field
other_fields	uint32	repeated Other fields
elevator	Wormhole.Elevator	Elevator

Wormhole.Elevator

Elevator

Field	Type	Description
type	Wormhole.Elevator.Type	Elevator type
ip	string	Cloud elevator IP

Field	Type	Description
port	uint32	Cloud elevator port
tag	string	identification tag
desc	string	Description

Dock.FeatureBoardType

Name	Number	Description
kFeatureBoardTypeUndefined	0	Undefined
kVLShape	1	VL-shaped feature board
kParallelShape	2	Parallel feature board
kConvexShape	3	Convex feature board
kNarrowPassageShape	4	Narrow passage feature shape
kElevatorShape	5	Elevator entrance feature shape
kFourPointRect	6	Four-point rectangle
kMagnetism	15	Magnetic strip guidance
kMagnetismRfid	16	Magnetic strip + RFID guidance

Storage.RollerStation.RollerMode

Mode

Name	Number	Description
kRollerModeUndefined	0	Undefined
kCheck	1	Check alignment
kProcessctrl	2	Process control

Wormhole.Elevator.Type

Elevator type

Name	Number	Description
kTypeUndefined	0	Undefined
kWide	1	Wide elevator
kNarrow	2	Narrow elevator

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Robot operation statistics [woosh.robot.count]

Robot operation statistics

AbnormalCodes

Exception code list information

Field	Type	Description
robot_id	uint32	
scs	StatusCode	repeated

Abnormals

Exception statistics collection

Field	Type	Description
ss	Status	repeated

Operation

Individual operation statistics information

Field	Type	Description
robot_id	uint32	
id	uint32	Unique identifier
date	uint32	Date
mileage	Operation.Mileage	Travel distance
buckets	woosh.common.TimeBucket	repeated Operating time period
distance	uint32	Accumulated mileage
uptime	uint32	Accumulated running time
end	bool	End flag

Operation.Mileage

Field	Type	Description
start	uint32	Starting mileage (meters)
end	uint32	Ending mileage (meters)

Operations

Operation statistics collection

Field	Type	Description
ops	Operation	repeated

Status

Individual status statistics information

Field	Type	Description
robot_id	uint32	
id	uint32	Unique identifier
info	StatusCode	Status information
bucket	woosh.common.TimeBucket	Trigger time period
cons	uint32	Recovery time
end	bool	End flag

StatusCode

Individual status code information

Field	Type	Description
robot_id	uint32	
code	uint64	Status code
time	uint64	Time
msg	string	Description
robot_task_id	int64	Robot task ID
state	woosh.robot.State	Robot state
type	woosh.action.Type	Action type
level	StatusCode.Level	Level

StatusCodes

Status code list information

Field	Type	Description
robot_id	uint32	
scs	StatusCode	repeated

Statuses

Status statistics collection

Field	Type	Description
ss	Status	repeated

Task

Individual task statistics information

Field	Type	Description
robot_id	uint32	
id	uint32	Unique identifier
task_id	int64	Task ID
dest	string	Destination
state	Task.State	Task state
bucket	woosh.common.TimeBucket	Task time period
cons	uint32	Task duration
end	bool	End flag

Tasks

Task statistics collection

Field	Type	Description
ts	Task	repeated

StatusCode.Level

Name	Number	Description
kNormal	0	Normal
kTips	1	Tips
kWarn	2	Warning
kFault	3	Fault

Task.State

Task status

Name	Number	Description
kExecuting	0	Executing
kCompleted	1	Completed
kFailed	2	Failed
kCancel	3	Cancelled

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Robot request package [woosh.robot]

Robot request package

ActionOrder

Action command request

Field	Type	Description
order	woosh.action.Order	Action command

BuildMap

Composition request

Field	Type	Description
type	BuildMap.BuildType	Type
scene_name	string	Scene name (required for kAdd and kUpdate)
map_name	string	Map name (required for kAdd and kUpdate)

BuildMapData

Composition data

Field	Type	Description
map_data	bytes	Map data in the composition, a png image data
width	uint32	Width of the image
height	uint32	Height of the image
origin_x	float	X coordinate of the bottom left corner of the image
origin_y	float	Y coordinate of the bottom left corner of the image
resolution	float	Map resolution

ChangeNavMode

Change navigation mode request

Field	Type	Description
nav_mode	woosh.nav.ModeSetting	Navigation mode setting
in_point	woosh.common.Pose2D	Domain entry point
out_point	woosh.common.Pose2D	Domain exit point

ChangeNavPath

Change navigation path request

Field	Type	Description
paths	PlanPath	Collection of navigation paths

CountData

Run statistics request

Field	Type	Description
req_type	CountData.Type	Request type
count_type	CountData.CountType	Count type (retrieve)
bucket	woosh.common.TimeBucket	Request time period (get)
operation_id	uint32	repeated Unique identifier (synchronize)
task_id	uint32	repeated Unique identifier (synchronize)
status_id	uint32	repeated Unique identifier (synchronize)
operation_page	int32	Running pagination, return the first 0 page with 100 entries if not specified
task_page	int32	Task pagination, return the first 0 page with 100 entries if not specified
status_page	int32	Status pagination, return the first 0 page with 100 entries if not specified

CountDataResponse

Statistical operation response

Field	Type	Description
operations	count.Operations	Statistical operation information
tasks	count.Tasks	Statistical task information

Field	Type	Description
abnormals	count.Abnormals	Statistical status information
operation_qty	int32	Total number of operations
task_qty	int32	Total number of tasks
abnormal_qty	int32	Total number of statuses

Deployment

Deployment request

Field	Type	Description
robot_id	uint32	
type	DeploymentType	Type
mode	DeploymentMode	Mode
pose	woosh.common.Pose2D	Pose

DeploymentResponse

Deployment response

Field	Type	Description
type	DeploymentType	Type
mode	DeploymentMode	Mode
markers	DeploymentResponse.Marker	repeated collected points
error_id_groups	DeploymentResponse.ErrorIDGroup	repeated error groups
check_times	fixed32	detection times

DeploymentResponse.ErrorID

Error ID

Field	Type	Description
id1	fixed32	
id2	fixed32	
id3	fixed32	

DeploymentResponse.ErrorIDGroup

Field	Type	Description
error_ids	DeploymentResponse.ErrorID	repeated

DeploymentResponse.Marker

Marker

Field	Type	Description
id	uint64	ID
pose	woosh.common.Pose2D	Pose

ExecPreTask

Execute predefined tasks

Field	Type	Description
task_set_id	int32	task set ID

ExecTask

Execute task request

Field	Type	Description
task_id	int64	task ID
type	woosh.task.Type	task type
direction	woosh.task.Direction	action direction
task_type_no	uint32	type combination
mark_no	string	Target point number (choose one of three)
plan_path	PlanPath	Navigation path collection (choose one of three)
pose	woosh.common.Pose2D	Pose (choose one of three)
custom	bytes	Custom field, varies depending on the project

ExecTaskSet

Execute task set request (not implemented yet)

Field	Type	Description
repeat_times	int32	Repeat times

Follow

Follow request

Field	Type	Description
type	bool	1: Enable automatic follow, 0: Disable automatic follow

InitRobot

Initialize robot request

Field	Type	Description
is_record	bool	Whether to record point reset
pose	woosh.common.Pose2D	Set the robot to a new coordinate

PlanNavPath

Request for planning navigation path

Field	Type	Description
robot_id	uint32	
start	woosh.common.Pose2D	Starting point
end	woosh.common.Pose2D	Target point
tolerance	float	Allowable bypass range, in meters

RobotWiFi

Robot WiFi request

Field	Type	Description
order	RobotWiFi.Order	Type
content	bytes	For Order kAdd kReconnect, it is the JSON parameter. For Order kForget, it is the SSID of the WiFi
is_connect_now	bool	Whether to connect immediately after adding, valid for Order kAdd
enable	bool	Valid for kHotspot, TRUE: turn on hotspot, FALSE: turn off hotspot

SetOccupancy

Set robot occupancy

Field	Type	Description
occupy	bool	Set occupancy

SetRobotPose

Set robot pose request

Field	Type	Description
pose	woosh.common.Pose2D	Set the robot to a new coordinate

Speak

Voice broadcast request

Field	Type	Description
text	string	Content of voice synthesis, empty to stop broadcasting

SwitchControlMode

Switch robot control mode request

Field	Type	Description
mode	ControlMode	Robot control mode

SwitchMap

Switch map request

Field	Type	Description
scene_name	string	Scene Name

Field name	Type	Description
file_datas	woosh.common.FileData	repeated Empty for switching only, otherwise update together

SwitchWorkMode

Switch robot work mode request

Field	Type	Description
mode	WorkMode	Work mode

Twist

Speed control request

Field	Type	Description
linear	float	Linear velocity in meters, positive value moves forward
angular	float	Angular velocity in radians, positive value rotates counterclockwise

BuildMap.BuildType

Composition type

Name	Number	Description
kBuildTypeUndefined	0	Undefined
kAdd	1	Add new scene or new map under existing scene
kUpdate	2	Update map under existing scene
kCancel	3	Cancel composition
kSave	4	Save composition

CountData.CountType

Statistics type

Name	Number	Description
kAll	0	All
kOperation	1	Operation
kTask	2	Task
kStatus	3	Status

CountData.Type

Request Type

Name	Number	Description
kGet	0	Get
kSync	1	Sync

DeploymentMode

Deployment Mode

Name	Number	Description
kDeploymentModeUndefined	0	Undefined
kDepCollect	1	Collect
kDepCancel	2	Cancel
kDepReflector	3	Calibrate

DeploymentType

Deployment Type

Name	Number	Description
kDeploymentTypeUndefined	0	Undefined
kBeacons	1	UWB
kArTags	2	QR Code

Name	Number	Description
kReflectors	3	Reflectors
kMark	4	Station

RobotWiFi.Order

Robot WiFi Request Type

Name	Number	Description
kOrderUndefined	0	Undefined
kWiFiList	1	WiFi List
kAdd	2	Add
kReconnect	3	Reconnect
kForget	4	Forget
kHotspot	5	Hotspot

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Robot Data [woosh.robot]

Robot Data

Battery

Robot Battery Information

Field	Type	Description
robot_id	uint32	
charge_state	Battery.ChargeState	Charging State
power	uint32	Battery Percentage, values from 0-100, 100 indicates full charge, 0 indicates no charge
health	uint32	Battery Health (full charge capacity / design capacity)
charge_cycle	uint32	Charge Cycle Count

Field	Type	Description
battery_cycle	uint32	Battery cycle
temp_max	uint32	Battery temperature (maximum temperature)

BeaconData

Beacon information

Field	Type	Description
robot_id	uint32	
beacon_id	uint32	Device ID that sends beacon data
range	float	Distance from beacon device to robot, in meters
power_rate	float	Battery power percentage, e.g. 90

DeviceState

Robot device status

Field	Type	Description
robot_id	uint32	
hardware	uint32	DeviceState.HardwareBit, each bit represents a status
software	uint32	DeviceState.SoftwareBit, each bit represents a status

General

Robot General Information

Field	Type	Description
robot_id	uint32	
type	Type	Robot Type
model_data	General.ModelData	Robot Size + Weight + Payload

Field	Type	Description
urdf_name	string	Model Name
display_model	string	Display Name
serial_number	uint32	Robot Serial Number
service_id	string	Robot Service ID
version	General.Version	

General.ModelData

Model Data

Field	Type	Description
length	uint32	Length
width	uint32	Width
height	uint32	Height
weight	uint32	Weight
load	uint32	Load

General.Version

Field	Type	Description
system	string	Robot system version number
rc	string	Application module version number

HardwareState

Robot hardware status

Field	Type	Description
robot_id	uint32	

Field	Type	Description
board	HardwareState.State	Control board
esb	HardwareState.State	Emergency stop device
crash	HardwareState.State	Safety bumper
seanner	HardwareState.State	Safety scanner
plc	HardwareState.State	Safety PLC
motor	HardwareState.State	repeated Motor 2
power	HardwareState.State	Power Management Board
lidar	HardwareState.State	repeated Lidar 2
camera	HardwareState.State	repeated Camera 2
light	HardwareState.State	Light Strip
sonar	HardwareState.State	repeated Distance Sensor 24
magnetism	HardwareState.State	Magnetic Sensor
beacon	HardwareState.State	UWB
imu	HardwareState.State	Gyroscope
lift	HardwareState.State	repeated Lifting Mechanism 2
roller	HardwareState.State	repeated Roller Mechanism 2
tractor	HardwareState.State	Traction Mechanism

Mode

Robot Control Mode Information

Field	Type	Description
robot_id	uint32	
ctrl	ControlMode	Control Mode
work	WorkMode	Work Mode, valid when control mode is automatic

Model

Robot Model

Field	Type	Description
robot_id	uint32	
model	woosh.common.Point	repeated

NavPath

Robot Navigation Path

Field	Type	Description
robot_id	uint32	
path	woosh.nav.Path	Navigation path

Network

Robot network information

Field	Type	Description
robot_id	uint32	
is_connected	bool	Network connection status
robot_ip	string	Robot IP
sch_ip	string	Scheduler IP
wifi	Network.WiFi	Robot WiFi information

Network.WiFi

Robot WiFi information

Field	Type	Description
name	string	Current connected WiFi name

Field	Type	Description
code	uint64	Network connection status code
list_json	bytes	WiFi list in JSON format
strength	uint32	WiFi signal strength
mode	Network.WiFi.Mode	Mode

OperationState

Robot running status

Field	Type	Description
robot_id	uint32	
nav	uint32	OperationState.NavBit each bit represents a state
robot	uint32	OperationState.RobotBit each bit represents a state

PlanPath

Robot global planning path

Field	Type	Description
robot_id	uint32	
plan_path	woosh.nav.PlanPath	repeated Global planning path

PoseSpeed

Robot pose velocity

Field	Type	Description
robot_id	uint32	
twist	woosh.common.Twist	Velocity
pose	woosh.common.Pose2D	Pose

Field	Type	Description
map_id	uint32	Map ID
mileage	uint32	accumulated mileage, unit: m

RobotInfo

Robot information

Field	Type	Description
robot_id	uint32	
general	General	General information
setting	Setting	Setting information
state	State	State information
mode	Mode	Mode information
pose_speed	PoseSpeed	Pose speed
battery	Battery	Battery information
network	Network	Network information
scene	Scene	Scene information
task_proc	TaskProc	Task process
device_state	DeviceState	Device state
hardware_state	HardwareState	Hardware state
operation_state	OperationState	Operation state
model	Model	Model information
task_history	TaskHistory	Task status information (last fifty records)
status_codes	count.StatusCodes	Status code information (last fifty records)
abnormal_codes	count.AbnormalCodes	Abnormal code information (unresolved exceptions)
count_operation	count.Operation	Operation count (last record)
count_task	count.Task	Count of tasks (latest)
count_error	count.Status	Count of errors (latest)

RobotState

Robot status

Field	Type	Description
robot_id	uint32	
state	State	

ScannerData

Lidar point cloud information

Field	Type	Description
robot_id	uint32	
angle_min	float	Starting angle of scan [radians]
angle_max	float	Ending angle of scan [radians]
angle_increment	float	Distance between measured angles [radians]
time_increment	float	Time between measurements [seconds]
scan_time	float	Time between scans [seconds]
range_min	float	Minimum measurement distance [meters]
range_max	float	Maximum measurement distance [meters]
ranges	float	repeated Measurement distance data [meters] (Note: values < range_min or > range_max should be discarded)
pose	woosh.common.Pose2D	Pose

Scene

Robot scene information

Field	Type	Description
robot_id	uint32	

Field	Type	Description
scene_name	string	Scene Name
map_id	uint32	Current map ID
map_name	string	Map Name
version	int64	Map data version number

Setting

Robot basic settings information

Field	Type	Description
robot_id	uint32	
identity	setting.Identity	Robot identity
server	setting.Server	Server connection information
power	setting.Power	Power configuration information
allow	Setting.Allow	

Setting.Allow

Field	Type	Description
auto_charge	bool	Whether to enable autonomous recharging when the battery is low
auto_park	bool	Whether to enable autonomous parking when idle
goods_check	bool	Whether to enable goods detection
mechanism_check	bool	Whether to enable mechanical detection

TaskHistory

Historical task information

Field	Type	Description
tes	TaskProc	repeated

TaskProc

Robot task execution information

Field	Type	Description
robot_id	uint32	
robot_task_id	int64	Robot task ID (test_id * 100 + task_id)
type	woosh.task.Type	task type
state	woosh.task.State	Task status
action	TaskProc.Action	Action information
dest	string	Destination
msg	string	Message
time	int32	Last update time (s)

TaskProc.Action

Robot task execution action information

Field	Type	Description
type	woosh.action.Type	Action type
state	woosh.action.State	Action state
wait_id	int32	Action wait ID

Battery.ChargeState

Name	Number	Description
kChargeStateUndefined	0	Undefined
kNot	1	0: Not charging
kManual	2	1: Manual charging
kAuto	3	2: Automatic charging

DeviceState.HardwareBit

Robot hardware device position information

Name	Number	Description
kHardwareBitUndefined	0	Undefined
kBtn1	1	Button 1 (Pause/Resume/Next)
kBtn2	2	Button 2 (Reset)
kBtn3	4	Button 3
kBtn4	8	Button 4
kBtn5	16	Button 5
kBtn6	32	Button 6
kBtn7	64	Button 7
kBtn8	128	Button 8
kServoBtn	256	Servo Release Button
kLiftBtn	512	Lift Button
kEmgBtn	1024	Emergency Stop Trigger

DeviceState.SoftwareBit

Robot software device position information

Name	Number	Description
kSoftwareBitUndefined	0	Undefined
kLocation	1	Location Status
kSchedule	2	Schedule Connection

Name	Number	Description
kGoodsState	4	Goods State
kOccupancy	8	Occupancy State

HardwareState.State

Hardware Status Type

Name	Number	Description
kNormal	0	Normal
kInfo	1	Information
kWarn	16	Warning
kFatal	17	Fault

Network.WiFi.Mode

WiFi Mode

Name	Number	Description
kWiFiModeUndefined	0	Undefined
kAP	1	AP Mode
kToAP	2	Switching to AP Mode
kClient	3	Client Mode
kToClient	4	Switching to Client Mode

OperationState.NavBit

Robot Navigation Related Bit Information

Name	Number	Description
kNavBitUndefined	0	Undefined
kNarrow	1	Narrow passage
kGuide	2	Guide to destination
kInALift	4	In elevator

Name	Number	Description
kImpede	8	Obstruct
kQRCode	16	QR code
kStage	32	Segment arrival

OperationState.RobotBit

Robot position information

Name	Number	Description
kRobotBitUndefined	0	Undefined
kTaskable	1	Taskable

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Robot Configuration [woosh.robot.setting]

Robot Configuration

AutoCharge

Switch autonomous recharging

Field	Type	Description
robot_id	uint32	
allow	bool	Allow or not

AutoPark

Switch autonomous parking

Field	Type	Description
robot_id	uint32	

Field	Type	Description
allow	bool	Allow or not

GoodsCheck

Switch cargo detection

Field	Type	Description
robot_id	uint32	
allow	bool	Allow or not

Identity

Set robot identifier

Field	Type	Description
robot_id	uint32	
name	string	Robot nickname

Power

Robot battery configuration

Field	Type	Description
robot_id	uint32	
alarm	uint32	Warning battery level
low	uint32	Low battery level
idle	uint32	Idle battery level
full	uint32	Full battery level

Server

Set server connection configuration

Field	Type	Description
robot_id	uint32	
ip	string	Server IP
port	uint32	Server port

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Basic task data [woosh.task]

Basic task data

Task

Task

Field	Type	Description
base	TaskBase	Basic task properties
exec	TaskExec	Task execution information

TaskBase

Task basic attributes

Field	Type	Description
id	int32	Task ID (unique within task set), range 1~99
name	string	Name
mark_no	string	Target point number

Field	Type	Description
type	Type	Task type
direction	Direction	Action direction
type_no	int32	Type combination
wait_time	int32	Waiting time (s)
cannot_cancel	bool	Non-cancelable task
custom	bytes	robot.ExecTask.custom

TaskExec

Task execution information

Field	Type	Description
state	State	State
action_wait_id	int32	Action wait ID

TaskSet

Task set

Field	Type	Description
base	TaskSetBase	Task set base attributes
exec	TaskSetExec	Task set execution information
time	TaskSetTime	Task set time records
tasks	Task	repeated All tasks

TaskSetBase

Task set base attributes

Field	Type	Description
id	int32	Task set ID (unique) generated automatically after adding tasks
name	string	Name
type	string	Task type e.g. task_info.WooshTaskSet
route	string	Route
no	string	Number (unique) assigned externally, if not assigned, it is the same as the ID
adapter	string	Adapter to which the string belongs Default: woosh
actuator	string	Actuator required Default: woosh
rtype	woosh.robot.Type	Robot type
priority	int32	Priority, the higher the value, the higher the priority
robots	uint32	repeated Specify robot ID

TaskSetExec

Task set execution information

Field	Type	Description
robot	uint32	Assigned robot
state	TaskSetState	Task set state
cur_task_id	int32	ID of the task currently being executed
pre_task_id	int32	Previous task ID

TaskSetList

Task set LIST

Field	Type	Description
tsets	TaskSet	repeated Task set collection
qty	int64	Number of database lookups

TaskSetTime

Task set time record

Field	Type	Description
generate	int32	Generation time
start	int32	Start time
end	int32	Last update time

Order

Instruction

Name	Number	Description
kOrderUndefined	0	Undefined
kPause	1	Pause
kContinue	2	Continue
kCancel	3	Cancelled
kNext	4	Next
kRedo	5	Redo
kComplete	6	Complete
kReset	7	Reset
kDelete	8	Delete (use with caution)

TaskSetState

Task set state

Name	Number	Description
kTaskSetStateUndefined	0	Undefined
kSetUnassigned	1	Unassigned
kSetExecuting	2	Executing

Name	Number	Description
kSetCompleted	3	Completed
kSetFailed	4	Failed
kSetDeleted	5	Deleted

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Woosh Task Data [woosh.task]

Woosh Task Data

AddTask

Add Task Set

Field	Type	Description
tset	WooshTaskSet	

CallInfo

Call Information

Field	Type	Description
type	CallInfo.CallType	Call Type
events	CallInfo.CallEvent	repeated Call Event Set
guard	CallInfo.CallGuard	Call event collection guard

CallInfo.CallEvent

Call event

Field	Type	Description
caller	CallInfo.Caller	Call

Field	Type	Description
release	uint32	Task ID, release call device after task completion

CallInfo.CallGuard

Call guard

Field	Type	Description
type	CallInfo.CallType	Type, only AND or OR, no transmission mode
callers	CallInfo.Caller	repeated Call collection

CallInfo.Caller

Call box

Field	Type	Description
mac_addr	string	MAC address, unique identifier for the caller
key_id	uint32	Key ID (starting from 1)
triggered	bool	Triggered

CallTask

Call task

Field	Type	Description
call_info	CallInfo	Call information
task_set	WooshTaskSet	Task set

CallTasks

Call task set

Field	Type	Description
call_tasks	CallTask	repeated

InsertTask

Insert task

Field	Type	Description
tset_id	int32	Task set ID
task	WooshTask	Task to be inserted, ensure unique task ID within the task set

RepeatTask

Loop task

Field	Type	Description
times	int32	Number of repetitions
task_set	WooshTaskSet	Task set

RepeatTasks

Predefined task set

Field	Type	Description
repeat_tasks	RepeatTask	repeated

TaskInfo

Task information

Field	Type	Description
repeat_tasks	RepeatTask	repeated Predefined task set
call_tasks	CallTask	repeated Call task set

WooshTask

Woosh task

Field	Type	Description
base	TaskBase	Basic task attributes
exec	TaskExec	Task execution information
custom	WooshTask.Custom	Variable custom fields
consta	WooshTask.Consta	Constant custom fields

WooshTask.Consta

Constant custom fields

Skippable tasks can continue to execute subsequent tasks after failure or cancellation
Tasks that cannot be skipped will not be able to continue with subsequent tasks after failure or cancellation (waiting for redo)

Field	Type	Description
can_skip	bool	Whether it can be skipped
fail_redo	bool	Whether the task should be automatically redone after failure
fail_next	bool	Whether the next task should be automatically started after failure
cancel_next	bool	Whether the next task should be automatically started after cancellation
cancel_end	bool	Whether the task set should be ended after cancellation
fail_end	bool	Whether the task set should be ended after failure
cancel_skip	bool	Cancel - Skip

Field	Type	Description
fail_skip	bool	Failure - Skip

WooshTask.Custom

Variable custom fields

Field	Type	Description
priority	uint32	Priority
executable	bool	Executable

WooshTaskSet

Woosh task collection

Field	Type	Description
base	TaskSetBase	Base task set attributes
exec	TaskSetExec	Task set execution information
time	TaskSetTime	Task set time records
tasks	WooshTask	repeated Subset of tasks
custom	WooshTaskSet.Custom	Variable custom fields
consta	WooshTaskSet.Consta	Constant custom fields

WooshTaskSet.Consta

Constant custom fields

Field	Type	Description
token	string	Task token

WooshTaskSet.Custom

Variable custom fields

Field	Type	Description
auto_complete	bool	Automatically mark task set as completed and release the robot when all tasks are completed or terminated

CallInfo.CallType

Call type

Name	Number	Description
kCallTypeUndefined	0	Undefined
kAnd	1	And (all triggers)
kOr	2	Or (single trigger)
kMsger	3	Message mode

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Action related [woosh.action]

Action related

Order

Action command

Name	Number	Description
kOrderUndefined	0	Undefined
kStart	1	Start (deprecated)
kPause	2	Pause

Name	Number	Description
kContinue	3	Continue
kCancel	4	Cancel
kRecover	5	Recover (valid for standalone tasks)
kWaitBreak	6	Wait for interruption
kTmCtrl	7	Traffic control
kReleaseCtrl	8	Release Control

State

Action Status

Name	Number	Description
kStateUndefined	0	Undefined
kRosExecuting	1	Executing
kRosWarning	2	Warning
kRosCancel	3	Cancel
kRosSuccess	4	Success
kRosFailure	5	Failure
kSuspend	10	Pause
kTraffiCtrl	11	Control

Type

Action Type

Name	Number	Description
kTypeUndefined	0	Undefined
kNav	1	Navigation
kStepCtrl	2	Step Control
kSecondposEnter	3	Second Position Enter
kSecondposQuit	4	Second Position Quit
kCarry	5	Carrying Action

Name	Number	Description
kWait	6	Wait
kCharge	7	Charge

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Common Data Structure [woosh.common]

Common Data Structure

Enum

Enumeration Structure

Field	Type	Description
key	string	Enumeration constant, "kNone"
value	int32	Enumeration value, 0

FileData

File Data

Field	Type	Description
name	string	File name
data	bytes	File data

FileMD5

File MD5

Field	Type	Description
name	string	File name

Field	Type	Description
md5	string	MD5

Point

Point Information

Field	Type	Description
x	float	x
y	float	y
z	float	z

Pose

Position (with map ID)

Field	Type	Description
pose	Pose2D	Pose
map_id	uint32	Map ID

Pose2D

2D Pose

Field	Type	Description
x	float	x
y	float	y
theta	float	Orientation

Quaternion

Quaternion

Field	Type	Description
x	float	x
y	float	y
z	float	z
w	float	w

TimeBucket

Time period

Field	Type	Description
start	int32	Start time (in seconds timestamp)
end	int32	End time (in seconds timestamp)

Twist

Speed

Field	Type	Description
linear	float	Linear velocity
angular	float	Angular velocity

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Peripheral Device Common Data [woosh.device]

Peripheral Device Common Data

Type

Device type

Name	Number	Description
kTypeUndefined	0	Undefined
kCaller	1	Caller
kDetector	2	Detector
kCtrler	3	Controller
kFire	4	Fire alarm
kLift	5	Elevator detector
kIndicator	6	Indicator board

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Map common data structure [woosh.map]

Map common data structure

FieldType

Domain type

Name	Number	Description
kFieldTypeUndefined	0	Undefined
kBidirectionWay	1	Bidirectional road
kSingleWay	2	One-way road
kOneWay	3	Single lane
kCrossing	4	Intersection

Name	Number	Description
kNarrowPassage	5	Narrow passage
kLocate	6	Locating domain
kRamp	7	Ramp domain
kOdom	8	Odom domain
kAutoDoor	9	Automatic door domain
kSpeedLimit	10	Speed limit domain
kFireField	11	Fire domain
kWarnField	12	Warning Field
kGuideField	13	Guide Field

MarkerType

Marker Point Type

Name	Number	Description
kMarkerTypeUndefined	0	Undefined
kStorage	1	Storage
kWormhole	2	Wormhole
kBeacon	3	UWB
kARTag	4	QR Code
kReflector	5	Reflector

PathType

Soft Guide Path Type

Name	Number	Description
kPathTypeUndefined	0	Undefined
kMonoPath	1	One-way
kBidirectPath	2	Two-way

Navigation Related [woosh.nav]

Navigation-related

LocalPath

Local Path

Field	Type	Description
points	LocalPath.Point	repeated collection of path points
time	int32	Path generation time (s)

LocalPath.Point

Path point

Field	Type	Description
pose	woosh.common.Pose2D	Pose
expend	uint32	Estimated time consumption (s)

ModeSetting

Navigation mode setting

Field	Type	Description
type	ArrType	Navigation arrival type
mode	Mode	Navigation mode
wait_timeout	uint32	Valid when nav_mode is kTimeout, this parameter specifies the timeout period (seconds)
max_speed	float	Maximum speed of navigation, take default speed when 0
permitted_passage	bool	Whether passage is allowed
capacity	int32	Channel capacity

Path

Path

Field	Type	Description
poses	woosh.common.Pose2D	repeated

PlanPath

Planned path

Field	Type	Description
path	Path	Navigation path, cannot be empty, only one value indicates path planned autonomously by the robot
map_id	uint32	ID of the map where the path is located
wormhole_id	uint32	ID of the wormhole the path leads to, 0 indicates that the path does not pass through a wormhole
dest_map_id	uint32	ID of the map where the wormhole leads to
target	woosh.common.Pose2D	Segment target point
optimal	PlanPath.Optimal	Path optimization

ArrType

Navigation arrival type

Name	Number	Description
kArrTypeUndefined	0	Undefined
kVague	1	Vague arrival
kAccurate	2	Accurate arrival

Mode

Navigation mode

Name	Number	Description
kModeUndefined	0	Undefined
kAvoid	1	Navigation obstacle avoidance
kNavWait	2	Waiting...
kTimeout	3	Waiting.Timeout.Replan
kOvertime	4	Waiting.Timeout.Navigation failed
kNarrow	10	Narrow passage
kMagnetic	11	Magnetic strip navigation
kQrcode	12	QR code navigation

PlanPath.Optimal

Path optimization

Name	Number	Description
kOptimalUndefined	0	Undefined
kOptimal	1	Optimal
kDestOptimal	2	Destination point optimization
kStrict	9	Strict (disable optimization)

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Robot Common Data [woosh.robot]

Robot Common Data

ControlMode

Control mode

Name	Number	Description
kControlModeUndefined	0	Undefined
kAuto	1	Auto
kManual	2	Manual
kMaintain	3	Maintenance

State

Robot automatic mode status

Name	Number	Description
kStateUndefined	0	Undefined
kUninit	1	Uninitialized
kIdle	2	Idle
kParking	3	Parking
kTask	4	In Task
kWarning	5	Warning
kFault	6	Fault
kFollowing	7	Following
kCharging	8	Charging
kMapping	9	Mapping

Type

Robot Type

Name	Number	Description
kTypeUndefined	0	Undefined
kBaseRobot_200	1	General Chassis
kPalletLiftRobot_500	11	Pallet Lift Platform
kShelfLiftRobot_500	21	Mobile Cart Lift

Name	Number	Description
kTractorRobot_500	31	Traction Robot
kRollerRobot_500	41	Roller Robot
kComplexRobot	50	Composite Robot
kArmRobot_14	61	Composite Arm

WorkMode

Robot Working Mode

Name	Number	Description
kWorkModeUndefined	0	Undefined
kDeployMode	1	Deployment Mode
kTaskMode	2	Task Mode
kScheduleMode	3	Schedule Mode

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Common Task Data [woosh.task]

Common Task Data

Direction

Direction

Name	Number	Description
kDirectionUndefined	0	Undefined
kFeeding	1	Feeding
kCutting	2	Cutting

State

Status

Name	Number	Description
kStateUndefined	0	Undefined
kInit	1	Initialized
kReady	2	Ready
kExecuting	3	In progress
kPaused	4	Paused
kActionWait	5	Action waiting
kTaskWait	6	Task waiting
kCompleted	7	Completed
kCanceled	8	Canceled
kFailed	9	Failed

Type

Task type

Name	Number	Description
kTypeUndefined	0	Undefined
kPick	1	Picking
kParking	2	Parking
kCharge	3	Charging
kCarry	4	Carrying

Scalar Value Types

.proto Type	C++	Java	Python	Go	C#	PHP	Ruby
double	double	double	float	float64	double	float	Float

.proto Type	C++	Java	Python	Go	C#	PHP	Ruby
float	float	float	float	float32	float	float	Float
int32	int32	int	int	int32	int	integer	Bignum or Fixnum (as required)
int64	int64	long	int/long	int64	long	integer/string	Bignum
uint32	uint32	int	int/long	uint32	uint	integer	Bignum or Fixnum (as required)
uint64	uint64	long	int/long	uint64	ulong	integer/string	Bignum or Fixnum (as required)
sint32	int32	int	int	int32	int	integer	Bignum or Fixnum (as required)
sint64	int64	long	int/long	int64	long	integer/string	Bignum
fixed32	uint32	int	int	uint32	uint	integer	Bignum or Fixnum (as required)
fixed64	uint64	long	int/long	uint64	ulong	integer/string	Bignum
sfixed32	int32	int	int	int32	int	integer	Bignum or Fixnum (as required)
sfixed64	int64	long	int/long	int64	long	integer/string	Bignum
bool	bool	boolean	boolean	bool	bool	boolean	TrueClass/FalseClass
string	string	String	str/unicode	string	string	string	String (UTF-8)
bytes	string	ByteString	str	[]byte	ByteString	string	String (ASCII-8BIT)