fitabase Garmin Data Dictionary

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All Daily Activity

Description: Daily activity information.

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garminActivity.csv

Data Header	Data Type	Data Description
ActivityDate	datetime	Datetime value in mm/dd/yyyy hh:mm:ss format. Note: all times are set to 12:00:00 AM
ActiveKilocalories	integer	Active kilocalories (dietary calories) burned through actual movement and activity during the monitoring period.
BmrKilocalories	integer	BMR Kilocalories burned by existing Basal Metabolic Rate (calculated based on user height/weight/age/other demographic data).
Steps	integer	Count of steps recorded during the monitoring period.
DistanceInMeters	integer	Distance traveled in meters.
DurationInSeconds	integer	Length of the monitoring period in seconds. 86400 once a full day is complete, but less if a user syncs mid-day.
ActiveTimeInSeconds	integer	Portion of the monitoring period (in seconds) in which the device wearer was considered Active. This relies on heuristics internal to each device.
ModerateIntensityDurationInSeconds	integer	Cumulative duration of activities of moderate intensity, lasting at least 600 seconds at a time. Moderate

		intensity is defined as activity with MET value range 3-6.
VigorousIntensityDurationInSeconds	integer	Cumulative duration of activities of vigorous intensity, lasting at least 600 seconds at a time. Vigorous intensity is defined as activity with MET value > 6.
MinHeartRateInBeatsPerMinute	integer	Minimum of heart rate values captured during the monitoring period, in beats per minute.
MaxHeartRateInBeatsPerMinute	integer	Maximum of heart rate values captured during the monitoring period, in beats per minute.
AverageHeartRateInBeatsPerMinute	integer	Average of heart rate values captured during the last 7 days, in beats per minute.
RestingHeartRateInBeatsPerMinute	integer	Average heart rate at rest during the monitoring period, in beats per minute.
StepsGoal	integer	The user's steps goal for this monitoring period.
IntensityDurationGoalInSeconds	integer	The user's goal for consecutive seconds of moderate to vigorous intensity activity for this monitoring period.
FloorsClimbed	integer	Number of floors climbed during the monitoring period.
FloorsClimbedGoal	integer	The user's goal for floors climbed in this monitoring period.

Activity Logs

Description: Information about specific tracked activities captured by Garmin devices.

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garminActivityLogs.csv

Data Header	Data Type	Data Description
StartTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
DurationInSeconds	integer	Duration of the activity in seconds.
IsParent	boolean	TRUE = activity is the parent activity of one or more child activities .
TotalElevationLossInMeters	numeric (decimal)	Total amount of elevation lost during activity in meters.
TotalElevationGainInMeters	numeric (decimal)	Total amount of elevation gained during activity in meters.
Steps	integer	Steps taken during the activity.
NumberOfActiveLengths	integer	Number of pool lengths traveled during SWIM activities.
MaxSpeedInMetersPerSecond	numeric (decimal)	Maximum speed in meters per second for activity
MaxRunCadenceInStepsPerMinute	numeric (decimal)	Steps per minute for RUN activities.
MaxPaceInMinutesPerKilometer	numeric (decimal)	Maximum pace for RUN activities.
MaxHeartRateInBeatsPerMinute	integer	Maximum heart rate tracked during activity.
MaxBikeCadenceInRoundsPerMinute	numeric (decimal)	Maximum cadence (revolutions per minute) for cycling activities.
DistanceInMeters	numeric (decimal)	Distance traveled in meters.
DeviceName	string	Device used to track the fitness activity.

ActiveKilocalories	integer	Energy expenditure in kilocalories expended during the activity.
AveragePaceInMinutesPerKilometer	numeric (decimal)	Average pace of activity in minutes per kilometer.
AverageSwimCadenceInStrokesPerMinute	numeric (decimal)	Average swim cadence - strokes per minute - for SWIM activities.
AverageSpeedInMetersPerSecond	numeric (decimal)	Average speed during activity.
AverageRunCadenceInStepsPerMinute	numeric (decimal)	Average cadence (steps per minute) for RUN activities.
AverageHeartRateInBeatsPerMinute	integer	Average heart rate for the activity.
AverageBikeCadenceInRoundsPerMinute	numeric (decimal)	Average cadence (revolutions per minute) for cycling activities.
ActivityType	string	Description of the activity type.
ParentSummaryId	integer	If present, the summaryID of the related parent activity. By default set to 0.
Manual	boolean	FALSE = activities tracked via Garmin device. True = activities manually entered through Garmin Connect site.

Heart Rate

Description: High resolution intraday heart rate values.

NOTE: Garmin devices that track heart rate log data at a different resolution than the sample rate. Newer devices sample heart rate continuously, but may log averaged heart rate in one-minute intervals. This may manifest as repeated values across the provided 15-second samples. Future devices may provide higher resolution logging.

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garminHeartRate.csv

Data Header	Data Type	Data Description
ActivityTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
HeartRate	integer	Heart rate value in beats per minute.

HRV (Heart Rate Variability)

Description: Heart Rate Variability (HRV) refers to beat-to-beat variations in heart rate and is data collected during the overnight sleep window for select devices.

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garminHRV.csv

Data Header	Data Type	Data Description
CalendarDate	date	Date value in yyy-mm-dd format
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
DurationInSeconds	integer	The number of seconds in this monitoring period
LastNightAvg	integer	The average heart rate variability value from the last night of data

LastNight5MinHigh	integer	The maximum HRV value over any 5 minute interval of the last night of data

Sleep

Description:
Sleep summaries are data records representing how long the user slept and the automatically classified sleep levels during that sleep event (e.g. light, deep periods) based on data generated by the user's device.

NOTE:
Incomplete data across a sleep period may result in partial or inaccurate sleep records. Please consult the validation field to determine status.

New Garmin devices that with heart rate sensors support "Advanced Sleep Monitoring," which includes light, deep, and REM sleep stages.

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garminSleep.csv

Data Header	Data Type	Data Description
SummaryId	string	Unique identifier for each sleep record. Entries with identical SummaryID values are from the same sleep record.
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
DeepSleepDurationInSeconds	integer	Time in seconds the user spent in deep sleep during the sleep period.
RemSleepDurationInSeconds	integer	Time in seconds the user spend in REM sleep during the sleep period.
LightSleepDurationInSeconds	integer	Time in seconds the user spent in light sleep during the sleep period.
AwakeDurationInSeconds	integer	Time in seconds the user spent awake during the sleep period.
Validation	string	Possible values:

		MANUAL: The user entered sleep start and stop times manually through a web form. There is no device data backing up the sleep assessment. **DEVICE**: The user used a device with the sleep feature to manually start and stop sleep. This type still requires manual user intervention to judge sleep start and stop. **AUTO_TENTATIVE**: The sleep start and stop times were auto-detected by Garmin Connect. However, it is possible that further refinements to this sleep record will come later. This could be because the user is still asleep or could be because the user owns multiple devices and might sync another device later for this same time period. **AUTO_FINAL**: The sleep start and stop times were auto-detected by Garmin Connect, and enough data has been gathered to finalize the window. This status also indicates that the user only has one device so this record can never be updated again – users that own multiple devices will never get an AUTO_FINAL. **AUTO_MANUAL**: Sleep data was auto-detected by Garmin Connect, but the user is overriding the start and stop times or the user started with a manual entry and the sleep was auto-detected later. Garmin Connect stores both but will display the manual start and stop times in favor of the auto-detected times. **ENHANCED_TENTATIVE**: Sleep data was collected from a device capable of running an enhanced sleep analysis to detect REM sleep, but an updated sleep summary record may come later with further refinements or a greater sleep period. **ENHANCED_FINAL**: Sleep data was collected from a device capable of running an enhanced sleep analysis to detect REM sleep, and no further updates or refinements to this sleep analysis are expected.

Sleep Details

Description:
A high resolution data set the includes the time spent in different sleep levels (awake, light, deep) during a sleep record.

NOTE:
New Garmin devices that with heart rate sensors support “Advanced Sleep Monitoring,” which includes light, deep, and REM sleep stages.

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garminSleepDetails.csv

Data Header	Data Type	Data Description
SummaryId	string	Unique identifier for each sleep record. Entries with identical SummaryID values are from the same sleep record.
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
SleepStage	string	One of four sleep stage levels: ● awake ● rem ● light ● deep
Duration	integer	Duration in seconds of time spent in the sleep level.
Validation	string	Possible values: **MANUAL**: The user entered sleep start and stop times manually through a web form. There is no device data backing up the sleep assessment. **DEVICE**: The user used a device with the sleep feature to manually start and stop sleep. This type still requires manual user

		intervention to judge sleep start and stop. **AUTO_TENTATIVE**: The sleep start and stop times were auto-detected by Garmin Connect. However, it is possible that further refinements to this sleep record will come later. This could be because the user is still asleep or could be because the user owns multiple devices and might sync another device later for this same time period. **AUTO_FINAL**: The sleep start and stop times were auto-detected by Garmin Connect, and enough data has been gathered to finalize the window. This status also indicates that the user only has one device so this record can never be updated again – users that own multiple devices will never get an AUTO_FINAL. **AUTO_MANUAL**: Sleep data was auto-detected by Garmin Connect, but the user is overriding the start and stop times or the user started with a manual entry and the sleep was auto-detected later. Garmin Connect stores both but will display the manual start and stop times in favor of the auto-detected times. **ENHANCED_TENTATIVE**: Sleep data was collected from a device capable of running an enhanced sleep analysis to detect REM sleep, but an updated sleep summary record may come later with further refinements or a greater sleep period. **ENHANCED_FINAL**: Sleep data was collected from a device capable of running an enhanced sleep analysis to detect REM

		sleep, and no further updates or refinements to this sleep analysis are expected.

Stress

Description: Daily stress information tracked by supported devices.

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garminStress.csv

Data Header	Data Type	Data Description
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
AverageStressLevel	integer	An abstraction of the user's average stress level in this monitoring period, measured from 1 to 100, or -1 if there is not enough data to calculate average stress. Scores between: ● 1-25 are considered "rest" ● 26-50 "low" stress ● 51-75 "medium" stress ● 76-100 as "high" stress
MaxStressLevel	integer	The highest stress level measurement taken during this monitoring period.
StressDurationInSeconds	integer	The number of seconds in this monitoring period where stress level measurements were in the stressful range (26-100).
RestStressDurationInSeconds	integer	The number of seconds in this monitoring period where stress

		level measurements were in the restful range (1 to 25).
ActivityStressDurationInSeconds	integer	The number of seconds in this monitoring period where the user was engaging in physical activity and so stress measurement was unreliable. All duration in this monitoring period not covered by stress, rest, and activity stress should be considered Uncategorized, either because the device was not worn or because not enough data could be taken to generate a stress score.
LowStressDurationInSeconds	integer	The portion of the user's stress duration where the measured stress score was in the low range (26-50).
MediumStressDurationInSeconds	integer	The portion of the user's stress duration where the measured stress score was in the medium range (51-75).
HighStressDurationInSeconds	integer	The portion of the user's stress duration where the measured stress score was in the high range (76-100).
StressQualifier	string	A qualitative label applied based on all stress measurements in this monitoring period.

Stress Details

Description: High resolution intraday stress values from supported Garmin devices.

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garminStressDetails.csv

Data Header	Data Type	Data Description
ActivityDate	datetime	Local datetime value in mm/dd/yyyy hh:mm:ss AM/PM format. Note: all times are set to 12:00:00 AM *Not included if time zone changed at any point during a given day. See TimeZoneChangedThisDay for more.
ActivityDateUTC	datetime	UTC datetime value in mm/dd/yyy hh:mm:ss AM/PM format.
CalendarDate	date	The date for which Garmin Connect will display the stress level value.
TimeZoneChangedthisDay	True/False	If it is detected that time zone of the device changed at any point during a given day, this will be set to `True`. Activity date will not be included if this is set to `True`.
ActivityTime	time	time value in mm/dd/yyyy

		hh:mm:ss AM/PM format.
StressLevelValue	integer	Stress value captured by Garmin. Values are 0 - 100 (low to high stress). ● -1 = not enough data ● -2 = too much motion to accurately capture stress values

Pulse Ox

Description: Saturation of oxygen in the bloodstream

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garminPulseOx.csv

Data Header	Data Type	Data Description
ActivityDate	datetime	Local datetime value in mm/dd/yyyy hh:mm:ss AM/PM format. Note: all times are set to 12:00:00 AM *Not included if time zone changed at any point during a given day. See TimeZoneChangedThisDay for more.
ActivityDateUTC	datetime	UTC datetime value in mm/dd/yyy hh:mm:ss AM/PM format.
CalendarDate	date	The date for which Garmin Connect will display the stress level value.
TimeZoneChangedthisDay	True/False	If it is detected that time zone of the device changed at any point during a given day, this will be set to `True`.

		Activity date will not be included if this is set to `True`.
SpO2	numeric (decimal)	Percentage of blood oxygen saturation

Epoch

Description: High resolution intraday values for daily activity. Epoch data represents the sum totals for data found in EpochLog.csv for each 15-minute interval.

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garminEpoch.csv

Data Header	Data Type	Data Description
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
Steps	integer	Total number of steps taken.
DistanceInMeters	numeric (decimal)	Total distance traveled in meters.
ActiveKilocalories	integer	Total active energy expenditure during the epoch. This includes only the calories burned by the activity and not calories burned as part of the basal metabolic rate
DurationInSeconds	integer	Length of the monitoring period in seconds. Should be equal to 900 in most cases. In rare cases may

		be less than 900 when a user syncs in the middle of an epoch
METmins	integer	Total sum of MET minutes for all activityTypes in the same 15min epoch from the **garminEpochLog.csv file.** Calculation: sum(met*(activeTimeInSeconds / 60)
METavg	integer	The average MET value for the 15 minute epoch. Calculation: METmins / ((DurationInSeconds/900)*15)

Epoch Log

Description: High resolution intraday values for daily activity.

NOTE: Epoch summary records contain much of the same data available in Daily summaries, but with 15-minute time-slice granularity.

There is one record for each activity type monitored within an individual epoch. For example, if the user was sedentary for five minutes, walked for five minutes, and then ran for five minutes over the course of 15 minutes, three activity records would be generated for that single 15-minute epoch. The duration value would be 900 seconds for all three records, but the active time for each would be 300 seconds.

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garminEpochLog.csv

Data Header	Data Type	Data Description
ActivityType	datetime	Text description of the activity type
ActiveKilocalories	integer	Total active energy expenditure during the epoch. This includes only the calories burned by the activity and not calories burned as part of the basal metabolic rate
Steps	integer	Count of steps recorded during the monitoring period

DistanceInMeters	numeric (decimal)	Distance traveled in meters
DurationInSeconds	integer	Length of the monitoring period in seconds.
ActiveTimeInSeconds	integer	Portion of the monitoring period (in seconds) in which the device wearer was active for this activity type. The sum of active times of all epochs of the same start time (and different activity types) should be equal to the duration.
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
Met	numeric (decimal)	MET (Metabolic Equivalent of Task) value for the active time for this activity type.
Intensity	string	Qualitative measure of intensity: ● **Sedentary** = Little to no activity monitored. This could be due to minimal movement, sitting, resting, or sleeping. ● **Active** = Some activity monitored. A brisk walk could achieve this intensity. ● **Highly Active** = High activity monitored. Running or speed walking could achieve this intensity.
MeanMotionIntensity	numeric (decimal)	The average of motion intensity scores for all minutes in this monitoring period. (see note below)
MaxMotionIntensity	numeric (decimal)	The largest motion intensity score of any minute in this monitoring period. (see note below)

Motion Intensity is a numerical abstraction (from 0 to 7) of movement data useful for characterizing the energy of specific motions relative to activity. As an example, a 3 while sitting on the couch (i.e. sedentary) represents much less movement than a 3 while running.

Move IQ

Description: Summary data regarding automatically detected activities.

NOTE:
Move IQ is a feature found on some activity tracking devices. Garmin Connect identifies periods of movement that match familiar exercising patterns such as biking, running, swimming, walking, or using an elliptical machine, and tags them as Events

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garminMoveIQ.csv

Data Header	Data Type	Data Description
StartTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
DurationInSeconds	integer	Heart rate value in beats per minute.
ActivityType	string	The activity type that has been identified for this timespan.
ActivitySubType	string	The activity subtype that has been identified for this timespan.

Body Composition

Description:
Information about a user's biometric data.

NOTE:
This data can be generated three ways:

1. Users can manually enter their weight on Garmin Connect. This results in a summary with only time and weight.
2. Users may also connect their MyFitnessPal account to their Garmin Connect account and update their weight on MyFitnessPal. This results in a summary that has a time and weight.
3. Finally, a user might have a Garmin Index body composition scale and sync data from this device. This will generate a summary with all possible biometric fields.

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garminBodyComposition.csv

Data Header	Data Type	Data Description
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
MuscleMassInGrams	integer	Muscle mass in grams
BoneMassInGrams	integer	Bone mass in grams
BodyWaterInPercent	numeric (decimal)	Percentage of body water (0.0 - 100.0)
BodyFatInPercent	numeric (decimal)	Percentage of body fat (0.0 - 100.0)
BodyMassIndex	numeric (decimal)	Body mass index (BMI)
WeightInGrams	integer	Weight in grams

User Metrics

Description:
User Metrics are per-user calculations performed by Garmin based on the underlying data uploaded from the user's device. This data can be specific to a single device and field availability is dependent on device model support.

NOTE:
Unlike other summaries, User Metrics are associated only with a calendar date, not a specific time frame, and only the most recent value for any fields is presented to the user.

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garminUserMetrics.csv

Data Header	Data Type	Data Description
ActivityDateTime	datetime	Datetime value in mm/dd/yyyy hh:mm:ss AM/PM format.
Vo2Max	Numeric (decimal)	An estimate of the maximum volume of oxygen (in milliliters) the user can consume per minute per kilogram of body weight at maximum performance.
FitnessAge	integer	An estimation of the 'age' of the user's fitness level, calculated by comparing internal fitness metrics with the average readings of biometrically similar users by age.