



COMPANY PROFILE

Amicrosystems SA (briefly referred to as **AMI**), is a Swiss technology company located in Neuchatel, Switzerland. AMI was founded in December 2013. The company researches, develops, manufactures and distributes high precision electronics & micro-technology products.

Our purpose is to address some of challenging technology demands in the fields of inertial navigation, inertial measurement and platform stability control, and industrial instrumentation.

AMI is dedicated to providing customers with innovative products and solutions on inertial technology high-end markets which demand high precision, high reliability, high performance and long term stability. The major application areas of AMI technology involve transportation, communication, aerospace, marine mapping and geophysical exploration.

PRODUCT RANGE

I/F high precision current-to-frequency conversion module

This is a series of high precision 3 channel synchronous current-to-frequency conversion modules. The module operates as an interface to high precision quartz accelerometers to implement analog-to-digital conversion. It is one of the key elements in high precision inertial measurement units (IMUs), which are principally utilized in the systems of strapdown inertial navigation, platform stabilization, and inertial measurement.

The I/F module operates in the Swiss innovative technology “analog to frequency converter based on charge compensated integrator” The product presents the exceptional features: long-term stability for bias and scale factor, excellent non-linearity and extremely low temperature drift. Developed with a special way of analog-to-digital conversion, the module has further unique properties: immunity to interference, wide dynamic range, and measurement information being not missed.

I/F product family have been developed based on market demand and feedback. The group of products derives from platform technology and could better satisfy the differentiated and customized demands in terms of input range, output range, PCB dimension.

Up to date there are seven models, specifically in two levels of technical specification have been listed on shelf, which present a set of input ranges: ($\pm 10\text{mA}$ / $\pm 12\text{mA}$ / $\pm 15\text{mA}$ / $\pm 30\text{mA}$ / $\pm 40\text{mA}$), and two primary output ranges (256kHz / 512kHz). The current I/F products on market are listed in the table below:

IF product family summary

| Series code | Input range / output range | Dimensions L×W mm | T-class Description | R-class Description |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IF10256 / IF10256R | ±10mA / 256 kHz | 116×116 | Nonlinearity $\leq 40\text{ppm @ AT}^1$ $\leq 100\text{ppm @ FT}^2$ Scale factor asymmetry $\leq 40\text{ppm}$ Bias stability $\leq 0.2\text{Hz}$ Operating temperature range: $-40^\circ\text{C} \sim +70^\circ\text{C}$ | Nonlinearity $\leq 20\text{ppm @ AT}$ $\leq 50\text{ppm @ FT}$ Scale factor asymmetry $\leq 25\text{ppm}$ Bias stability $\leq 0.1\text{Hz}$ Operating temperature range: $-40^\circ\text{C} \sim +70^\circ\text{C}$ |
| IF12256 / IF12256R | ±12mA / 256 kHz | 100×100 | | |
| IF15256 / IF15256R | ±15mA / 256 kHz | 100×100 | | |
| IF30256 / IF30256R | ±30mA / 256 kHz | 100×100 | | |
| IF40256 / IF40256R | ±40mA / 256 kHz | 100×100 | | |
| IF12512 / IF12512R | ±12mA / 512 kHz | 90×90 | | |
| IF15512 / IF15512R | ±15mA / 512 kHz | 90×90 | | |
| Notes: 1. AT: Ambient Temperature (25°C) 2. FT: $-40^\circ\text{C} \sim +70^\circ\text{C}$ * Apart from the products listed above, some other I/F models could be customized in terms of input and output range, PCB dimension and connector dimensions. | | | | |

Main applications: Strapdown inertial navigation, platform stabilization, and inertial measurement systems

Annex: I/F product image examples

