

Title (en)
Method and apparatus for determining seam tracking control of arc welding

Title (de)
Verfahren und Vorrichtung zur Nahtspurprüfung von Lichtbogenschweissen

Title (fr)
Méthode et appareil pour le contrôle d'un cordon de soudure à l'arc

Publication
EP 1077101 A8 20010516 (EN)

Application
EP 00306377 A 20000726

Priority
JP 23088199 A 19990817

Abstract (en)
[origin: EP1077101A2] A missing part of a welding current waveform completely removed of a short-circuiting current waveform is linearly interpolated by interpolation means. The linearly interpolated welding current waveform is sampled by sampling means at a plurality of intervals corresponding to one cycle of oscillation of a welding torch. The sampled welding current waveforms for one cycle are folded and superposed at a half-cycle point, and replaced by an approximated straight line according to a least square method by approximated straight line replacing means. The positional excursion direction and positional excursion distance of the welding torch in the oscillating direction are obtained by operation corresponding to the inclination direction and angle of the approximated straight line. A height at the center of the approximated straight line is compared to a set welding current value to perform operation to obtain the positional excursion direction and positional excursion distance of the welding torch in the direction of the welding torch axis. The oscillating center and torch height of the welding torch are controlled to move in such a direction that these oscillating direction positional excursion and direction of the torch axis positional excursion are cancelled. Thus, a tracking monitoring device and a tracking control device are less affected by a short-circuit or sputtering, and capable of coping with a high speed welding speed by the high oscillating frequency. <IMAGE>

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IPC 8 full level
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CPC (source: EP US)
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