UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark one)

[X] **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Quarterly Period Ended March 31, 2018

OR

[ ] **TRANSITION REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES ACT OF 1934**
For the transition period from ___ to ___

Commission file number 0-20388

LITTELFUSE, INC.

(Exact name of registrant as specified in its charter)

Delaware	**36-3795742**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

8755 West Higgins Road, Suite 500	
Chicago, Illinois	**60631**
(Address of principal executive offices)	**(ZIP Code)**

Registrant’s telephone number, including area code: 773-628-1000

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange On Which Registered
Common Stock, $0.01 par value	NASDAQ Global Select Market[SM]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes [X] No [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act (Check one): Large accelerated filer [X] Accelerated filer [ ] Non-accelerated filer [ ] Smaller reporting company [ ] Emerging growth company [ ]

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

As of April 27, 2018, the registrant had outstanding 24,966,975 shares of Common Stock, net of Treasury Shares.

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LITTELFUSE, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands)	March 31, 2018	December 30, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 412,458	$ 429,676
Short-term investments	37	35
Trade receivables, less allowances (March 31, 2018 - $33,746; December 30, 2017 - $27,516)	244,905	182,699
Inventories	263,969	140,789
Prepaid income taxes and income taxes receivable	3,899	1,689
Prepaid expenses and other current assets	47,794	37,452
Total current assets	973,062	792,340
Property, plant, and equipment:		
Land	29,575	9,547
Buildings	118,170	86,599
Equipment	555,578	505,838
Accumulated depreciation and amortization	(366,118)	(351,407)
Net property, plant, and equipment	337,205	250,577
Intangible assets, net of amortization	405,406	203,850
Goodwill	840,574	453,414
Investments	31,128	10,993
Deferred income taxes	12,039	11,858
Other assets	28,096	17,070
Total assets	$ 2,627,510	$ 1,740,102
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 120,817	$ 101,844
Accrued payroll	41,220	49,962
Accrued expenses	74,925	48,994
Accrued severance	1,367	1,459
Accrued income taxes	15,938	16,285
Current portion of long-term debt	10,111	6,250
Total current liabilities	264,378	224,794
Long-term debt, less current portion	743,437	489,361
Deferred income taxes	60,525	17,069
Accrued post-retirement benefits	35,817	18,742
Other long-term liabilities	81,379	62,580
Shareholders' equity:		
Common stock, par value $0.01 per share: 34,000,000 shares authorized; shares issued, March 31, 2018–24,936,931; December 30, 2017 –22,713,198	251	229
Treasury stock, at cost: 453,571 and 439,598 shares, respectively	(44,052)	(41,294)
Additional paid-in capital	800,614	310,012
Accumulated other comprehensive income	(73,742)	(63,668)
Retained earnings	758,766	722,140
Littelfuse, Inc. shareholders' equity	1,441,837	927,419
Non-controlling interest	137	137
Total equity	1,441,974	927,556
Total liabilities and equity	$ 2,627,510	$ 1,740,102

See accompanying Notes to Condensed Consolidated Financial Statements.

LITTELFUSE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF NET INCOME
(Unaudited)

(in thousands, except per share data)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
Net sales	$ 417,813	$ 285,441
Cost of sales	268,190	171,791
Gross profit	149,623	113,650
Selling, general, and administrative expenses	77,514	46,703
Research and development expenses	22,540	12,151
Amortization of intangibles	11,998	5,944
Total operating expenses	112,052	64,798
Operating income	37,571	48,852
Interest expense	5,423	3,120
Foreign exchange gain	(10,555)	(1,557)
Other (income) expense, net	(1,943)	(139)
Income before income taxes	44,646	47,428
Income taxes	8,617	8,537
Net income	$ 36,029	$ 38,891
Income per share:		
Basic	$ 1.48	$ 1.71
Diluted	$ 1.45	$ 1.69
Weighted-average shares and equivalent shares outstanding:		
Basic	24,339	22,748
Diluted	24,775	22,989
Cash dividends declared per common share	$ 0.37	$ 0.33

See accompanying Notes to Condensed Consolidated Financial Statements.

LITTELFUSE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

(in thousands)	**For the Three Months Ended March 31, 2018**	**For the Three Months Ended April 1, 2017**
Net income	$ 36,029	$ 38,891
Other comprehensive income (loss):		
Pension and postemployment liability adjustments (net of tax expense (benefit) of ($60) and ($32), respectively)	(188)	(181)
Pension and postemployment reclassification adjustments (net of tax (benefit) expense of ($5) and $36, respectively)	185	(101)
Unrealized (loss) gain on investments	-	947
Foreign currency translation adjustments	(276)	4,962
Comprehensive income	$ 35,750	$ 44,518

See accompanying Notes to Condensed Consolidated Financial Statements.

LITTELFUSE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(in thousands)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
OPERATING ACTIVITIES		
Net income	$ 36,029	$ 38,891
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	11,614	9,128
Amortization of intangibles	11,998	5,944
Provision for bad debts	(13)	351
Non-cash inventory charges	17,896	—
Unrealized gain on investments	(1,864)	—
Loss on sale of property, plant, and equipment	99	600
Stock-based compensation	8,714	3,583
Deferred income taxes	842	616
Changes in operating assets and liabilities:		
Accounts receivable	(8,417)	(11,267)
Inventories	(269)	(3,296)
Accounts payable	2,990	(3,295)
Accrued expenses (including post-retirement)	12,573	4,140
Accrued payroll and severance	(18,607)	(20,221)
Accrued taxes	(1,174)	(220)
Prepaid expenses and other	(3,143)	(2,011)
Net cash provided by operating activities	69,268	22,943
INVESTING ACTIVITIES		
Acquisitions of businesses, net of cash acquired	(306,487)	(14,172)
Proceeds from maturities of short-term investments	—	3,739
Decrease in entrusted loan	—	655
Purchases of property, plant, and equipment	(17,909)	(12,377)
Proceeds from sale of property, plant, and equipment	19	57
Net cash used in investing activities	(324,377)	(22,098)
FINANCING ACTIVITIES		
Proceeds of revolving credit facility	50,000	—
Proceeds of term loan	75,000	—
Proceeds of senior notes payable	175,000	125,000
Payments of term loan	(2,500)	(1,563)
Payments of revolving credit facility	(47,000)	(112,500)
Net (payments) proceeds related to stock-based award activities	(116)	199
Proceeds (payments) from entrusted loan	—	(655)
Debt issuance costs	(878)	(71)
Cash dividends paid	(9,198)	(7,472)
Net cash provided by financing activities	240,308	2,938
Effect of exchange rate changes on cash and cash equivalents	(2,417)	(928)
Increase (decrease) in cash and cash equivalents	(17,218)	2,855
Cash and cash equivalents at beginning of year	429,676	275,124
Cash and cash equivalents at end of year	$ 412,458	$ 277,979

See accompanying Notes to Condensed Consolidated Financial Statements.

1. Summary of Significant Accounting Policies and Other Information

Nature of Operations

Littelfuse, Inc. and subsidiaries (the "Company") is a global leader in circuit protection products with advancing platforms in power control and sensor technologies, serving customers in the electronics, automotive, and industrial markets. With a diverse and extensive product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, the Company works with its customers to build safer, more reliable and more efficient products for the connected world in virtually every market that uses electrical energy, ranging across consumer electronics, IT and telecommunication applications, industrial electronics, automobiles and other transportation, and heavy industrial applications. The Company has a network of global engineering centers and labs that develop new products and product enhancements, provides customer application support and test products for safety, reliability, and regulatory compliance.

Basis of Presentation

The Company's accompanying unaudited Condensed Consolidated Financial Statements have been prepared in accordance with U.S. Generally Accepted Accounting Principles ("GAAP") for interim financial information, the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, certain information and disclosures normally included in the consolidated balance sheets, statements of net income and comprehensive income and cash flows prepared in conformity with U.S. GAAP have been condensed or omitted as permitted by such rules and regulations, although the Company believes that the disclosures made are adequate to make the information not misleading. They have been prepared in accordance with accounting policies described in the Company's Annual Report on Form 10-K for the year ended December 30, 2017, which should be read in conjunction with the disclosures therein. In the opinion of management, all adjustments considered necessary for a fair presentation have been included and are of a normal, recurring nature. Operating results for interim periods are not necessarily indicative of annual operating results.

Revenue Recognition

Adoption

On December 31, 2017, the Company adopted new guidance on revenue from contracts with customers using the modified retrospective method. The adoption did not have a significant impact on the Company's consolidated financial statements.

Revenue Disaggregation

The following table disaggregates the Company's revenue by primary business units for the three months ended March 31, 2018:

(in thousands)	Electronics Segment	Automotive Segment	Industrial Segment	Total
Electronics – Passive Products and Sensors	$ 114,495	$ —	$ —	$ 114,495
Electronics - Semiconductor	149,916	—	—	149,916
Passenger Car Products	—	63,580	—	63,580
Automotive Sensors	—	31,323	—	31,323
Commercial Vehicle Products	—	31,228	—	31,228
Industrial Products	—	—	27,271	27,271
Total	$ 264,411	$ 126,131	$ 27,271	$ 417,813

See Note 12, *Segment Information* for net sales by segment and countries.

Revenue Recognition

The Company recognizes revenue on product sales in the period in which the Company satisfies its performance obligation and control of the product is transferred to the customer. The Company's sales arrangements with customers are predominately short term in nature and generally provide for transfer of control at the time of shipment as this is the point at which title and risk of loss of the product transfers to the customer. At the end of each period, for those shipments where title to the products and the risk of loss and rewards of ownership do not transfer until the product has been received by the customer, the Company adjusts revenues and cost of sales for the delay between the time that the products are shipped and when they are received by the customer. The amount of revenue recorded reflects the consideration to which the Company expects to be entitled in exchange for goods and may include adjustments for customer allowance, rebates and price adjustments. The Company's distribution channels are primarily through direct sales and independent third-party distributors.

The Company has elected the practical expedient under ASC 340-40-25-4 to expense commissions when incurred as the amortization period of the commission asset the Company would have otherwise recognized is less than one year.

Revenue and Billing

The Company generally accepts orders from customers through receipt of purchase orders or electronic data interchange based on written sales agreements and purchasing contracts. Contract pricing and selling agreement terms are based on market factors, costs, and competition. Pricing is often negotiated as an adjustment (premium or discount) from the Company's published price lists. The customer is invoiced when the Company's products are shipped to them in accordance with the terms of the sales agreement. As the Company's standard payment terms are less than one year, the Company has elected the practical expedient under ASC 606-10-32-18 to not assess whether a contract has a significant financing component. The Company also elected the practical expedient provided in ASC 606-10-25-18B to treat all product shipping and handling activities as fulfillment activities, and therefore recognize the gross revenue associated with the contract, inclusive of any shipping and handling revenue. This is similar to the Company's prior practice and therefore the effect of the new guidance is immaterial.

Ship and Debit Program

Some of the terms of the Company's sales agreements and normal business conditions provide customers (distributors) the ability to receive price adjustments on products previously shipped and invoiced. This practice is common in the industry and is referred to as a "ship and debit" program. This program allows the distributor to debit the Company for the difference between the distributors' contracted price and a lower price for specific transactions. Under certain circumstances (usually in a competitive situation or large volume opportunity), a distributor will request authorization for pricing allowances to reduce its price. When the Company approves such a reduction, the distributor is authorized to "debit" its account for the difference between the contracted price and the lower approved price. The Company establishes reserves for this program based on historic activity and actual authorizations for the debit and recognizes these debits as a reduction of revenue.

Return to Stock

The Company has a return to stock policy whereby certain customers, with prior authorization from Littelfuse management, can return previously purchased goods for full or partial credit. The Company establishes an estimated allowance for these returns based on historic activity. Sales revenue and cost of sales are reduced to anticipate estimated returns.

Volume Rebates

The Company offers volume based sales incentives to certain customers to encourage greater product sales. If customers achieve their specific quarterly or annual sales targets, they are entitled to rebates. The Company estimates the projected amount of rebates that will be achieved by the customer and recognizes this estimated cost as a reduction to revenue as products are sold.

Recently Adopted Accounting Standards

In March 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-07 "Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-Retirement Benefit Cost," which changed the presentation of net periodic pension and post-retirement benefit cost (net benefit cost) within the Statement of Income. Under the previous guidance, net benefit cost was reported as an employee cost within operating income. The amendment required the bifurcation of net benefit cost, with the service cost component to be presented with other employee compensation costs in operating income while the other components will be reported separately outside of income from operations. ASU No. 2017-07 was effective for the first quarter of 2018 with the Company adopting the new standard on December 31, 2017.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments-Recognition and Measurement of Financial Assets and Financial Liabilities" which addressed certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. The ASU requires the Company to recognize any changes in the fair value of certain equity investments in net income. Previously these changes were recognized in other comprehensive income ("OCI"). The Company adopted the new standard on December 31, 2017, on a modified retrospective basis, recognizing the cumulative effect as a $9.8 million increase to retained earnings. As a result of the adoption of the new standard and change in fair value of our equity investments, for the three months ended March 31, 2018, the Company recognized an unrealized gain of $1.9 million in Other (income) expense, net in the Condensed Consolidated Statements of Net Income.

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers" (Topic 606) which supersedes the revenue recognition requirements in ASC 605, "Revenue Recognition." This ASU provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most current revenue recognition guidance. The guidance permits two implementation approaches, one requiring retrospective application of the new standard with restatement of prior years and one requiring prospective application of the new standard with disclosure of results under old standards. The Company adopted the new standard on December 31, 2017 using the modified retrospective method, however, no adjustment to retained earnings was needed. The new guidance did not have a material effect on the Company's Condensed Consolidated Statements of Income. See the *Revenue Recognition* section above for further discussion.

In October 2016, the FASB issued ASU No. 2016-16, "Income Taxes" (Topic 740). This ASU update requires entities to recognize the income tax consequences of many intercompany asset transfers at the transaction date. The seller and buyer will immediately recognize the current and deferred income tax consequences of an intercompany transfer of an asset other than inventory. The tax consequences were previously deferred. The Company adopted the new standard on December 31, 2017 and it did not have a material impact.

Recently Issued Accounting Standards

In February 2016, the FASB issued ASU No. 2016-02, "Leases" (Topic 842). This ASU requires lessees to recognize, on the balance sheet, assets and liabilities for the rights and obligations created by leases of greater than twelve months. The accounting by lessors will remain largely unchanged. The ASU is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. Adoption will require a modified retrospective transition. The Company will adopt the standard in the first quarter of 2019. The Company is currently evaluating the impact of ASU 2016-02.

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions in the Tax Act. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period cost are both acceptable methods subject to an accounting policy election. The Company has not yet completed its assessment and therefore has not yet elected an accounting policy.

In February 2018, the FASB issued ASU No. 2018-02 “Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income,” which permits the reclassification of tax effects stranded in accumulated other comprehensive income to retained earnings as a result of the Tax Act. The standard also requires entities to disclose whether or not they elected to reclassify the tax effects related to the Tax Act as well as their policy for releasing income tax effects from accumulated other comprehensive income. The standard allows the option of applying either a retrospective adoption, meaning the standard is applied to all periods in which the effect of the Tax Act is recognized, or applying the amendments in the period of adoption, meaning an adjustment is made to shareholder’s equity as of the beginning of the reporting period. ASU 2018-02 will be effective in the first quarter of 2019; however early adoption is permitted for interim and annual periods, including the reporting period in which the Tax Act was enacted. The Company is currently evaluating the impact of ASU 2018-02 on the Consolidated Financial Statements.

2. Acquisitions

The Company accounts for acquisitions using the acquisition method in accordance with ASC 805, “Business Combinations,” in which assets acquired and liabilities assumed are recorded at fair value as of the date of acquisition. The operating results of the acquired business are included in the Company’s Consolidated Financial Statements from the date of the acquisition.

IXYS Corporation

On January 17, 2018, the Company acquired IXYS Corporation (“IXYS”), a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power control semiconductors across the industrial, communications, consumer and medical markets. IXYS has a broad customer base, serving more than 3,500 customers through its direct sales force and global distribution partners. The acquisition of IXYS is expected to accelerate the Company’s growth across the power control market driven by IXYS’s extensive power semiconductor portfolio and technology expertise. With IXYS, the Company will be able to diversify and expand its presence within industrial electronics markets, leveraging the strong IXYS industrial OEM customer base. The Company also expects to increase long-term penetration of its power semiconductor portfolio in automotive markets, expanding its global content per vehicle.

Upon completion of the acquisition, at IXYS stockholders’ election and subject to proration, each share of IXYS common stock, par value $0.01 per share, owned immediately prior to the effective time was cancelled and extinguished and automatically converted into the right to receive: (i) $23.00 in cash (subject to applicable withholding tax), without interest (referred to as the cash consideration), or (ii) 0.1265 of a share of common stock, par value $0.01 per share, of Littelfuse (referred to as the stock consideration). IXYS stockholders received cash in lieu of any fractional shares of Littelfuse common stock that the IXYS stockholders would otherwise have been entitled to receive. Additionally, each outstanding option to purchase shares of IXYS common stock granted under an IXYS equity plan were assumed by Littelfuse and converted into an option to acquire (i) a number of shares of Littelfuse common stock equal to the number of shares of IXYS common stock subject to such option immediately prior to the effective time multiplied by 0.1265, rounded down to the nearest whole share, with (ii) an exercise price per share of Littelfuse common stock equal to the exercise price of such IXYS stock option immediately prior to the effective time divided by 0.1265, rounded up to the nearest whole cent.

Based on the $207.5 per share opening price of Littelfuse common stock on January 17, 2018, the consideration IXYS stockholders received in exchange of their IXYS common stock in the acquisition had a value of $814.8 million comprised of $380.5 million of cash and $434.2 million of Littelfuse stock. In addition to the consideration transferred related to IXYS common stock, the value of consideration transferred, and included in the purchase price, related to IXYS stock options that were converted to Littelfuse stock options, or cash settled, had a value of $41.7 million. As a result, total consideration was valued at $856.5 million.

The total purchase price of $856.5 million has been allocated, on a preliminary basis, to assets acquired and liabilities assumed, as of the completion of the acquisition, based on preliminary estimated fair values. The purchase price allocation is preliminary because the evaluations necessary to assess the fair values of the net assets acquired are still in process. The primary areas that are not yet finalized relate to the completion of the valuations of certain acquired income tax assets and liabilities, including the impact of the adoption of the Tax Cuts and Job Act (“Tax Act”) and certain acquired investments. As a result, these allocations are subject to change during the purchase price allocation period as the valuations are finalized.

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the IXYS acquisition:

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of cash acquired	$ 302,865
Cash settled stock options	3,622
Littelfuse stock	434,192
Converted stock options	38,109
Total purchase consideration	$ 778,788
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	$ 154,254
Property, plant, and equipment	76,580
Intangible assets	211,600
Goodwill	381,599
Other non-current assets	31,570
Other non-current liabilities	(76,815)
	$ 778,788

Included in IXYS's current assets, net was approximately $49.1 million of receivables. All IXYS goodwill, other assets and liabilities were recorded in the Electronics segment and primarily reflected in the Americas and European geographic areas. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining IXYS's products and technology with the Company's existing electronics product portfolio. Goodwill resulting from the IXYS acquisition is not expected to be deductible for tax purposes.

Included in the Company's Condensed Consolidated Statements of Net Income for the three months ended March 31, 2018 are net sales of approximately $86.3 million and a loss before income taxes of approximately $17.8 million since the January 17, 2018 acquisition of IXYS. The Company recognized approximately $5.9 million of stock compensation expense related to IXYS stock options converted to Littelfuse stock options during the three months ended March 31, 2018 of which $4.5 million was recognized immediately as it related to prior services periods.

As required by purchase accounting rules, the Company recorded a $36.9 million step-up of inventory to its fair value as of the acquisition date based on the preliminary valuation. The step-up is being amortized as a non-cash charge to cost of goods sold during the first and second quarters of 2018, as the acquired inventory is sold, and reflected as other non-segment costs. During the three months ended March 31, 2018, the Company recognized a charge of $17.9 million for the amortization of this fair value inventory step-up.

During the three months ended March 31, 2018, the Company incurred approximately $10.2 million of legal and professional fees related to this acquisition which were primarily recognized as *selling, general, and administrative expenses*. These costs were reflected as other non-segment costs.

2017 *Acquisitions*

U.S. Sensor

On July 7, 2017, the Company acquired the assets of U.S. Sensor Corporation ("U.S. Sensor"). The acquisition purchase price of $24.3 million, net of the finalization of an income tax gross up which was settled in the fourth quarter of 2017, was funded with available cash. The acquired business expands the Company's existing sensor portfolio in several key electronics and industrial end markets. U.S. Sensor manufactures a variety of high quality negative temperature coefficient thermistors as well as thermistor probes and assemblies. Product lines also include thin film platinum resistance temperature detectors ("RTDs") and RTD assemblies.

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the U.S. Sensor acquisition:

(in thousands)	**Purchase Price Allocation**
Total purchase consideration:	
Cash	$ 24,340
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	$ 4,635
Patented and unpatented technologies	1,090
Trademarks and tradenames	200
Non-compete agreement	50
Customer relationships	2,830
Goodwill	16,075
Current liabilities	(540)
	$ 24,340

Included in U.S. Sensor's current assets, net was approximately $1.5 million of receivables. All U.S. Sensor goodwill, other assets and liabilities were recorded in the Electronics segment and reflected in the United States geographic area. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining U.S. Sensor's products and technology with the Company's existing electronics product portfolio. Goodwill for the above acquisition is expected to be deductible for tax purposes.

As required by purchase accounting rules, the Company recorded a $1.6 million step-up of inventory to its fair value as of the acquisition date based on the preliminary valuation. The step-up was amortized as a non-cash charge to cost of goods sold during the third quarter of 2017, as the acquired inventory was sold, and reflected as other non-segment costs.

Monolith

In December 2015, the Company invested $3.5 million in the preferred stock of Monolith Semiconductor Inc. ("Monolith"), a U.S. start-up Company developing silicon carbide technology, which represented approximately 12% of the common stock of Monolith on an as-converted basis. The Company accounted for its investment in Monolith under the cost method with any changes in value recorded in other comprehensive income. The value of the Monolith investment was $3.5 million at December 31, 2016.

On February 28, 2017, pursuant to a Securities Purchase Agreement between the Company and the stockholders of Monolith ("Securities Purchase Agreement") and conditioned on Monolith achieving a product development milestone and other provisions, the Company acquired 62% of the outstanding common stock of Monolith for $15 million. The Securities Purchase Agreement includes provisions whereby the Company will acquire the remaining outstanding stock of Monolith ("non-controlling interest") at a time or times based on Monolith meeting certain technical and sales targets. During the first quarter of 2018, Monolith met the next set of technical and sales targets. As a result, and pursuant to the Securities Purchase Agreement, in April 2018 the Company acquired an additional 19% of the outstanding common stock of Monolith for $5 million. Consideration for the purchase of the remaining 19% outstanding common stock will be either $0.5 million or $5 million, based on Monolith meeting the remaining technical and sales targets, and will be paid no later than June 30, 2019.

The additional investment, in the first quarter of 2017, resulted in the Company gaining control of Monolith and was accounted for as a step-acquisition with the fair value of the original investment immediately before the acquisition estimated to be approximately $3.5 million. As the fair value of the investment immediately prior to the transaction equaled the carrying value, there was no impact on the Company's Consolidated Statements of Net Income. As the Securities Purchase Agreement includes an obligation of the Company to mandatorily redeem the non-controlling interest for cash, the fair value of the non-controlling interest was recognized as a liability on the Company's Consolidated Balance Sheets. The original investment of $3.5 million, additional cash consideration of $14.2 million (net of cash acquired), and the non-cash consideration of the fair value of the commitment to purchase the non-controlling interest of $9.0 million resulted in a purchase price of $26.7 million. Changes in the fair value of the non-controlling interest are recognized in the Company's Consolidated Statements of Net Income.

Commencing March 1, 2017, Monolith was reflected as a consolidated subsidiary within the Company's Consolidated Financial Statements. Had the acquisition occurred as of January 1, 2017, the impact on the Company's consolidated results of operations would not have been material.

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the Monolith acquisition:

(in thousands)		Purchase Price Allocation
Total purchase consideration:		
Original investment	$	3,500
Cash, net of cash acquired		14,172
Non-cash, fair value of commitment to purchase non-controlling interest		9,000
Total purchase consideration	$	26,672
Allocation of consideration to assets acquired and liabilities assumed:		
Current assets, net	$	891
Property, plant, and equipment		789
Patented and unpatented technologies		6,720
Non-compete agreement		140
Goodwill		20,641
Current liabilities		(639)
Other non-current liabilities		(1,870)
	$	26,672

Included in Monolith's current assets, net was approximately $0.7 million of receivables. All Monolith goodwill, other assets and liabilities were recorded in the Electronics segment and reflected in the United States geographic area. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining Monolith's products and technology with the Company's existing electronics product portfolio. Goodwill for the above acquisition is not expected to be deductible for tax purposes.

Pro Forma Results

The following table summarizes, on a pro forma basis, the combined results of operations of the Company and IXYS as though the acquisition had occurred as of January 1, 2017. The Company has not included pro forma results of operations for U.S. Sensor or Monolith as these results were not material to the Company. The pro forma amounts presented are not necessarily indicative of either the actual consolidated results had the IXYS acquisition occurred as of January 1, 2017 or of future consolidated operating results.

	For the Three Months Ended			
(in thousands, except per share amounts)		March 31, 2018		April 1, 2017
Net sales	$	434,526	$	368,813
Income before income taxes		81,924		11,021
Net income		63,933		17,462
Net income per share — basic		2.57		0.70
Net income per share — diluted		2.53		0.69

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Pro forma results presented above primarily reflect the following adjustments:

(in thousands)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
Amortization[(a)]	$ 1,902	$ (6,276)
Depreciation	—	(94)
Transaction costs[(b)]	9,976	(9,976)
Amortization of inventory step-up[(c)]	17,896	(22,156)
Stock compensation[(d)]	4,479	(5,013)
Interest expense[(e)]	—	(2,582)
Income tax impact of above items	(7,701)	15,374

(a) The amortization adjustment for the three months ended March 31, 2018 primarily reflects the reduction of amortization expense in the period related to the Order backlog intangible asset. The Order backlog has a useful life of twelve months and will be fully amortized in the fiscal 2017 pro forma results. The amortization adjustment for the three months ended April 1, 2017 reflects incremental amortization resulting for the measurement of intangibles at their fair values.
(b) The transaction cost adjustments reflect the reversal of certain bank and attorney fees from the three months ended March 31, 2018 and recognition of those fees during the three months ended April 1, 2017.
(c) The amortization of inventory step-up adjustment reflects the reversal of the amount recognized during the three months ended March 31, 2018 and the recognition of a full quarter of the amortization during the three months end April 1, 2017. The inventory step-up is being amortized over five months as the inventory is sold.
(d) The stock compensation adjustment reflects the reversal of the portion of stock compensation for IXYS stock options that were converted to Littelfuse stock options and expensed immediately during the three months ended March 31, 2018. The adjustment for the three months ended April 1, 2017 reflect the incremental stock compensation for the converted stock options.
(e) The interest expense adjustment reflects incremental interest expense related to the financing of the transaction.

3. Inventories

The components of inventories at March 31, 2018 and December 30, 2017 are as follows:

(in thousands)	March 31, 2018	December 30, 2017
Raw materials	$ 66,259	$ 39,030
Work in process	96,826	27,454
Finished goods	100,884	74,305
Total	$ 263,969	$ 140,789

4. Goodwill and Other Intangible Assets

The amounts for goodwill and changes in the carrying value by segment for the three months ended March 31, 2018 are as follows:

(in thousands)	Electronics	Automotive	Industrial	Total
As of December 30, 2017	$ 278,959	$ 135,829	$ 38,626	$ 453,414
Additions[(a)]	381,599	—	—	381,599
Currency translation	2,455	3,195	(89)	5,561
As of March 31, 2018	$ 663,013	$ 139,024	$ 38,537	$ 840,574

(a) The additions resulted from the acquisition of IXYS.

The components of other intangible assets at March 31, 2018 are as follows:

(in thousands, except weighted average useful life)	Weighted Average Useful Life	Gross Carrying Value	Accumulated Amortization	Net Book Value
Patents, licenses and software	10.6	$ 193,622	$ 64,012	$ 129,610
Distribution network	12.6	44,473	33,434	11,039
Customer relationships, trademarks, and tradenames	18.1	314,452	59,591	254,861
Order backlog	1.0	12,400	2,504	9,896
Total		$ 564,947	$ 159,541	$ 405,406

During the three months ended March 31, 2018, the Company recorded additions to other intangible assets of $211.6 million, related to the IXYS acquisition, the components of which were as follows:

(in thousands, except weighted average useful life)	Weighted Average Useful Life	Amount
Patents, licenses and software	8.0	$ 51,500
Customer relationships, trademarks,and tradenames	17.2	147,700
Order backlog	1.0	12,400
Total		$ 211,600

During the three months ended March 31, 2018 and April 1, 2017, the Company recorded amortization expense of $12.0 million and $5.9 million, respectively for intangible assets with definite lives.

Estimated annual amortization expense related to intangible assets with definite lives as of March 31, 2018 is as follows:

(in thousands)	Amount
2018	$ 54,938
2019	42,005
2020	41,747
2021	39,928
2022	38,918
2023 and thereafter	197,914
Total	$ 415,450

5. Debt

The carrying amounts of debt at March 31, 2018 and December 30, 2017 are as follows:

(in thousands)	March 31, 2018	December 30, 2017
Revolving Credit Facility	$ 3,000	$ —
Term Loan	195,000	122,500
Euro Senior Notes, Series A due 2023	144,041	139,623
Euro Senior Notes, Series B due 2028	116,956	113,369
U.S. Senior Notes, Series A due 2022	25,000	25,000
U.S. Senior Notes, Series B due 2027	100,000	100,000
U.S. Senior Notes, Series A due 2025	50,000	—
U.S. Senior Notes, Series B due 2030	125,000	—
Other	111	—
Unamortized debt issuance costs	(5,560)	(4,881)
Total debt	753,548	495,611
Less: Current maturities	(10,111)	(6,250)
Total long-term debt	$ 743,437	$ 489,361

Revolving Credit Facility / Term Loan

On March 4, 2016, the Company entered into a five-year credit agreement (“Credit Agreement”) with a group of lenders for up to $700.0 million. The Credit Agreement consisted of an unsecured revolving credit facility (“Revolving Credit Facility”) of $575.0 million and an unsecured term loan credit facility (“Term Loan”) of up to $125.0 million. In addition, the Company had the ability, from time to time, to increase the size of the Revolving Credit Facility and the Term Loan by up to an additional $150.0 million, in the aggregate, in each case in minimum increments of $25.0 million, subject to certain conditions and the agreement of participating lenders. For the Term Loan, the Company was required to make quarterly principal payments of $1.6 million through March 31, 2018 and $3.1 million from June 30, 2018 through December 31, 2020 with the remaining balance due on March 4, 2021.

On October 13, 2017, the Company amended the Credit Agreement to increase the Revolving Credit Facility from $575.0 million to $700.0 million and increase the Term Loan from $125.0 million to $200.0 million and to extend the expiration date from March 4, 2021 to October 13, 2022. The Credit Agreement also includes the option for the Company to increase the size of the Revolving Credit Facility and the Term Loan by up to an additional $300.0 million, in the aggregate, subject to the satisfaction of certain conditions set forth in the Credit Agreement. Term Loans may be made in up to two advances. The first advance of $125.0 million occurred on October 13, 2017 and the second advance of $75.0 million occurred on January 16, 2018. For the Term Loan, the Company is required to make quarterly principal payments of 1.25% of the original term loan ($2.5 million with the second advance on January 16, 2018) through maturity, with the remaining balance due on October 13, 2022.

Outstanding borrowings under the Credit Agreement bear interest, at the Company’s option, at either LIBOR, fixed for interest periods of one, two, three or six-month periods, plus 1.00% to 2.00%, or at the bank’s Base Rate, as defined, plus 0.00% to 1.00%, based upon the Company’s Consolidated Leverage Ratio, as defined. The Company is also required to pay commitment fees on unused portions of the credit agreement ranging from 0.15% to 0.25%, based on the Consolidated Leverage Ratio, as defined. The credit agreement includes representations, covenants and events of default that are customary for financing transactions of this nature. The effective interest rate on outstanding borrowings under the credit facility was 3.13% at March 31, 2018.

As of March 31, 2018, the Company had $0.1 million outstanding in letters of credit and had available $696.9 million of borrowing capacity under the Revolving Credit Facility. At March 31, 2018, the Company was in compliance with all covenants under the Credit Agreement.

Senior Notes

On December 8, 2016, the Company entered into a Note Purchase Agreement, pursuant to which the Company issued and sold €212 million aggregate principal amount of senior notes in two series. The funding date for the Euro denominated senior notes occurred on December 8, 2016 for €117 million in aggregate amount of 1.14% Senior Notes, Series A, due December 8, 2023 ("Euro Senior Notes, Series A due 2023"), and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 ("Euro Senior Notes, Series B due 2028") (together, the "Euro Senior Notes"). Interest on the Euro Senior Notes is payable semiannually on June 8 and December 8, commencing June 8, 2017.

On December 8, 2016, the Company entered into a Note Purchase Agreement, pursuant to which the Company issued and sold $125 million aggregate principal amount of senior notes in two series. On February 15, 2017, $25 million in aggregate principal amount of 3.03% Senior Notes, Series A, due February 15, 2022 ("U.S. Senior Notes, Series A due 2022"), and $100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 ("U.S. Senior Notes, Series B due 2027") (together, the "U.S. Senior Notes due 2022 and 2027") were funded. Interest on the U.S. Senior Notes due 2022 and 2027 is payable semiannually on February 15 and August 15, commencing August 15, 2017.

On November 15, 2017, the Company entered into a Note Purchase Agreement pursuant to which the Company issued and sold $175 million in aggregate principal amount of senior notes in two series. On January 16, 2018, $50 million aggregate principal amount of 3.48% Senior Notes, Series A, due February 15, 2025 ("U.S. Senior Notes, Series A due 2025") and $125 million in aggregate principal amount of 3.78% Senior Notes, Series B, due February 15, 2030 ("U.S. Senior Notes, Series B due 2030") (together the "U.S. Senior Notes due 2025 and 2030" and with the Euro Senior Notes and the U.S. Senior Notes 2022 and 2027, the "Senior Notes") were funded. Interest on the U.S. Senior Notes due 2025 and 2030 will be payable on February 15 and August 15, commencing on August 15, 2018.

The Senior Notes have not been registered under the Securities Act, or applicable state securities laws. The Senior Notes are general unsecured senior obligations and rank equal in right of payment with all existing and future unsecured unsubordinated indebtedness of the Company.

The Senior Notes are subject to certain customary covenants, including limitations on the Company's ability, with certain exceptions, to engage in mergers, consolidations, asset sales and transactions with affiliates, to engage in any business that would substantially change the general business of the Company, and to incur liens. In addition, the Company is required to satisfy certain financial covenants and tests relating to, among other matters, interest coverage and leverage. At March 31, 2018, the Company was in compliance with all covenants under the Senior Notes.

The Company may redeem the Senior Notes upon the satisfaction of certain conditions and the payment of a make-whole amount to noteholders, and are required to offer to repurchase the Senior Notes at par following certain events, including a change of control.

6. Fair Value of Assets and Liabilities

For assets and liabilities measured at fair value on a recurring and nonrecurring basis, a three-level hierarchy of measurements based upon observable and unobservable inputs is used to arrive at fair value. Observable inputs are developed based on market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions about valuation based on the best information available in the circumstances. Depending on the inputs, the Company classifies each fair value measurement as follows:

Level 1—Valuations based on unadjusted quoted prices for identical assets or liabilities in active markets;

Level 2—Valuations based upon quoted prices for similar instruments, prices for identical or similar instruments in markets that are not active, or model-derived valuations, all of whose significant inputs are observable, and

Level 3—Valuations based upon one or more significant unobservable inputs.

Following is a description of the valuation methodologies used for instruments measured at fair value and their classification in the valuation hierarchy.

Investments in Equity Securities

Investments in equity securities listed on a national market or exchange are valued at the last sales price and classified within Level 1 of the valuation hierarchy.

Mutual Funds

The Company has a non-qualified Supplemental Retirement and Savings Plan which provides additional retirement benefits for certain management employees and named executive officers by allowing participants to defer a portion of their annual compensation. The Company maintains accounts for participants through which participants make investment elections. The marketable securities are classified as Level 1 under the fair value hierarchy as they are maintained in mutual funds with readily determinable fair value.

There were no changes during the quarter ended March 31, 2018 to the Company's valuation techniques used to measure asset and liability fair values on a recurring basis. As of March 31, 2018 and December 30, 2017, the Company did not hold any non-financial assets or liabilities that are required to be measured at fair value on a recurring basis.

The following table presents assets measured at fair value by classification within the fair value hierarchy as of March 31, 2018:

	Fair Value Measurements Using			
(in thousands)	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Total**
Investments in equity securities	$ 14,754	$ —	$ —	$ 14,754
Mutual funds	9,852	—	—	9,852

The following table presents assets measured at fair value by classification within the fair value hierarchy as of December 30, 2017:

	Fair Value Measurements Using			
(in thousands)	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Total**
Investments in equity securities	$ 10,993	$ —	$ —	$ 10,993
Mutual funds	7,962	—	—	7,962

In addition to the methods and assumptions used for the financial instruments recorded at fair value as discussed above, the following methods and assumptions are used to estimate the fair value of other financial instruments that are not marked to market on a recurring basis. The Company's other financial instruments include cash and cash equivalents, short-term investments, accounts receivable and its long-term debt. Due to their short-term maturity, the carrying amounts of cash and cash equivalents, short-term investments and accounts receivable approximate their fair values. The Company's revolving and term loan debt facilities' fair values approximate book value at March 31, 2018 and December 30, 2017, as the rates on these borrowings are variable in nature.

The carrying value and estimated fair values of the Company's Euro Senior Notes, Series A and Series B and USD Senior Notes, Series A and Series B, as of September 30, 2017 and December 31, 2016 were as follows:

	March 31, 2018		December 30, 2017	
(in thousands)	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Euro Senior Notes, Series A due 2023	$ 144,041	$ 142,038	$ 139,623	$ 138,294
Euro Senior Notes, Series B due 2028	116,956	113,953	113,369	111,579
USD Senior Notes, Series A due 2022	25,000	24,301	25,000	24,737
USD Senior Notes, Series B due 2027	100,000	96,475	100,000	99,992
USD Senior Notes, Series A due 2025	50,000	48,081	—	—
USD Senior Notes, Series B due 2030	125,000	118,303	—	—

7. Benefit Plans

The Company has company-sponsored defined benefit pension plans covering employees in the U.K., Germany, the Philippines, China, Japan, and France. The amount of the retirement benefits provided under the plans is based on years of service and final average pay.

The Company recognizes interest costs, expected return on plan assets, and amortization, net within *Other (income) expense, net* in the Condensed Consolidated Statements of Net Income. The components of net periodic benefit cost for the three months ended March 31, 2018 and April 1, 2017 were as follows:

	For the Three Months Ended	
(in thousands)	March 31, 2018	April 1, 2017
Components of net periodic benefit cost:		
Service cost	$ 533	$ 408
Interest cost	501	360
Expected return on plan assets	(540)	(476)
Amortization, net	74	84
Net periodic benefit cost	$ 568	$ 376

The Company expects to make approximately $2.3 million of cash contributions to its pension plans in 2018.

8. Shareholders' Equity

The following table sets forth the changes in shareholders' equity for the three months ended March 31, 2018:

(in thousands)	Littelfuse, Inc. Shareholders' Equity	Non-controlling Interest	Total
Balance at December 30, 2017	$ 927,419	$ 137	$ 927,556
Net income	36,029	—	36,029
Other comprehensive income	(279)	—	(279)
Stock-based compensation	8,714	—	8,714
Withheld shares on restricted share units for withholding taxes	(2,758)	—	(2,758)
Stock options exercised	9,609	—	9,609
Issuance of common stock[(a)]	472,301	—	472,301
Cash dividends paid ($0.37 per share)	(9,198)	—	(9,198)
Non-controlling interest	—	—	—
Balance at March 31, 2018	$ 1,441,837	$ 137	$ 1,441,974

(a) The issuance of common stock (2,092,491 shares) during the three months ended March 31, 2018 relates to the acquisition of IXYS. See Note 2, *Acquisitions* for further discussion.

The following table sets forth the changes in the components of Accumulated Other Comprehensive Income (Loss) by component for the three months ended March 31, 2018:

(in thousands)	Pension and postretirement liability and reclassification adjustments [(a)]	Unrealized gain/(loss) on investments	Foreign currency translation adjustment	Accumulated other comprehensive income (loss)
Balance at December 30, 2017	$ (10,836)	$ 9,795	$ (62,627)	$ (63,668)
Cumulative effect adjustment [(b)]	—	(9,795)	—	(9,795)
Activity in the period	(3)	—	(276)	(279)
Balance at March 31, 2018	$ (10,839)	$ —	$ (62,903)	$ (73,742)

(a) The balances at March 31, 2018 and December 30, 2017 are net of taxes of $0.2 million and $1.4 million, respectively.
(b) The Company adopted ASU 2016-01 on December 31, 2018 on a modified retrospective basis, recognizing the cumulative effect as a $9.8 million increase to retained earnings. See Note 1, *Summary of Significant Accounting Policies and Other Information*, for further discussion.

9. Income Taxes

The effective tax rate for the first quarter of 2018 was 19.3% compared to an effective tax rate of 18.0% in the first quarter of 2017. The effective tax rate for the first quarter of 2017 was lower than the then applicable 35% U.S. statutory tax rate primarily due to income earned in lower tax jurisdictions.

On December 22, 2017, the U.S. enacted legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). Among other things, the Tax Act reduces the U.S. corporate federal income tax rate from 35% to 21%, adds base broadening provisions which limit deductions and address excessive international tax planning, imposes a one-time tax (the “Toll Charge”) on accumulated earnings of certain non-U.S. subsidiaries and enables repatriation of earnings of non-U.S. subsidiaries free of U.S. federal income tax. Other than the Toll Charge (which, except for the IXYS impact, is applicable to the Company for 2017), the provisions will generally be applicable to the Company in 2018 and beyond.

In accordance with the guidance provided in SEC Staff Accounting Bulletin (“SAB”) No. 118, in the fourth quarter of 2017 the Company recorded a charge of $47 million as a provisional reasonable estimate of the impact of the Tax Act, including $49 million for the Toll Charge net of $2 million for other net tax benefits. The Company did not adjust the provisional reasonable estimate in the first quarter of 2018. In addition, the Company recorded a preliminary estimate of $10 million for the toll charge associated with the acquisition of IXYS. This adjustment was reflected in the opening balance sheet as an increase to goodwill and other long-term liabilities. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No. 118. The final charge may differ from the provisional reasonable estimate if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Aside from these interpretation issues, the final charge may differ from the provisional reasonable estimate due to refinements of accumulated non-U.S. earnings and tax pool data.

The Company recognized deferred tax liabilities of $12.0 million ($11.8 million for non-U.S. taxes and $0.2 million for U.S. state taxes) as of December 30, 2017 related to taxes on certain non-U.S. earnings which are not considered to be permanently reinvested. Some of these taxes may provide a U.S. federal income tax benefit as a foreign tax credit. However, due to uncertainty in regard to the Tax Act’s provisions, no such tax benefit was recorded as of December 30, 2017, and no such tax benefit was recorded in the first quarter of 2018. The Company will reconsider this provisional conclusion when it finalizes its preliminary reasonable estimate of the impact of the Tax Act, based upon interpretations and administrative guidance as of that time.

One of the base broadening provisions of the Tax Act is commonly referred to as the “GILTI” provisions. In accordance with guidance issued by the FASB staff, the Company has not adopted an accounting policy for GILTI. Thus, deferred taxes were computed without consideration of the possible future impact of the GILTI provisions. The Company intends to adopt an accounting policy for GILTI within the measurement period outlined in SAB 118. Although such an accounting policy has not been adopted, the Company considered GILTI when determining the current portion of income tax expense recorded for the first quarter of 2018.

Although certain administrative guidance has been issued, the appropriate application of many provisions of the Tax Act remain uncertain. The Company used its best judgement as to the application of these provisions in determining its income tax expense for the first quarter of 2018.

10. Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share:

(in thousands, except per share amounts)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
Numerator:		
Net income as reported	$ 36,029	$ 38,891
Denominator:		
Weighted average shares outstanding		
Basic	24,339	22,748
Effect of dilutive securities	436	241
Diluted	24,775	22,989
Earnings Per Share:		
Basic earnings per share	$ 1.48	$ 1.71
Diluted earnings per share	$ 1.45	$ 1.69

No potential shares of common stock attributable to stock options were excluded from the diluted earnings per share calculation for the three months ended March 31, 2018 and April 1, 2017, respectively.

11. Related Party Transactions

As a result of the Company's acquisition of IXYS, the Company has equity ownerships in various investments that are accounted for under the equity method. The following is a description of the investments and related party transactions.

Powersem GmbH: The Company owns 45% of the outstanding equity of Powersem GmbH ("Powersem"), a module manufacturer based in Germany. During the three months ended March 31, 2018, the Company recorded revenues of $0.1 million from sales of products to Powersem for use as components in their products. During the three months ended March 31, 2018, the Company purchased $1.1 million of products from Powersem. At March 31, 2018, the accounts receivable balance from Powersem was $0.1 million and the accounts payable balance to Powersem was $0.3 million.

EB Tech Ltd.: The Company owns approximately 20% of the outstanding equity of EB Tech Ltd. ("EB Tech"), a company with expertise in radiation technology based in South Korea. During the three months ended March 31, 2018 EB Tech rendered processing services for the Company totaling approximately $0.1 million. As of March 31, 2018, the Company's accounts payable balance to EB Tech was immaterial.

Automated Technology, Inc.: The Company owns approximately 24% of the outstanding common shares of Automated Technology, Inc ("ATEC"), a supplier located in the Philippines that provides assembly and test services. During the three months ended March 31, 2018, ATEC rendered assembly and test services to the Company totaling approximately $2.4 million. As of March 31, 2018, the Company's accounts payable balance to ATEC was $0.8 million.

12. Segment Information

The Company and its subsidiaries design, manufacture and sell components and modules for circuit protection, power control and sensing throughout the world. The Company reports its operations by the following segments: Electronics, Automotive, and Industrial. An operating segment is defined as a component of an enterprise that engages in business activities from which it may earn revenues and incur expenses, and about which separate financial information is regularly evaluated by the Chief Operating Decision Maker ("CODM") in deciding how to allocate resources. The CODM is the Company's President and Chief Executive Officer ("CEO"). The CODM allocates resources to and assesses the performance of each operating segment using information about its revenue and operating income (loss) before interest and taxes, but does not evaluate the operating segments using discrete balance sheet information.

Sales, marketing, and research and development expenses are charged directly into each operating segment. Manufacturing, purchasing, logistics, customer service, finance, information technology, and human resources are shared functions that are allocated back to the three operating segments. The Company does not report inter-segment revenue because the operating segments do not record it. Certain expenses, determined by the CODM to be strategic in nature and not directly related to segments current results, are not allocated but identified as "Other". Additionally, the Company does not allocate interest and other income, interest expense, or taxes to operating segments. These costs are not allocated to the segments, as management excludes such costs when assessing the performance of the segments. Although the CODM uses operating income (loss) to evaluate the segments, operating costs included in one segment may benefit other segments. Except as discussed above, the accounting policies for segment reporting are the same as for the Company as a whole.

- *Electronics Segment*: Consists of one of the broadest product offerings in the industry, including fuses and fuse accessories, positive temperature coefficient ("PTC") resettable fuses, polymer electrostatic discharge ("ESD") suppressors, varistors, gas discharge tubes; semiconductor and power semiconductor products such as discrete transient voltage suppressor ("TVS") diodes, TVS diode arrays, protection and switching thyristors, silicon carbide, metal-oxide-semiconductor field-effect transistors ("MOSFETs") and silicon carbide diodes; and insulated gate bipolar transistors ("IGBT") technologies. The segment covers a broad range of end markets, including consumer electronics, automotive electronics, IT and telecommunications equipment, medical devices, lighting products, and white goods.

- *Automotive Segment:* Consists of a wide range of circuit protection, power control and sensing technologies for global original equipment manufacturers ("OEMs"), Tier-I suppliers and parts distributors in the automotive, commercial vehicle, and agricultural and construction equipment industries. Passenger car fuse products include fuses and fuse accessories, including blade fuses, battery cable protectors, varistors, high-current fuses, and high-voltage fuses for hybrid and electric vehicles. Commercial vehicle products include fuses, switches, relays, and power distribution modules for the commercial vehicle industry. Automotive sensor products include a wide range of automotive and commercial vehicle sensors designed to monitor the passenger compartment occupants and environment as well as the vehicle's powertrain, emissions, speed and suspension.

- *Industrial Segment:* Consists of power fuses, protection relays and controls and other circuit protection products for use in heavy industrial applications such as mining, oil and gas, energy storage, construction, HVAC systems, elevator and other industrial equipment.

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Segment information is summarized as follows:

(in thousands)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
Net sales		
Electronics	$ 264,411	$ 153,767
Automotive	126,131	107,839
Industrial	27,271	23,835
Total net sales	$ 417,813	$ 285,441
Depreciation and amortization		
Electronics	$ 13,678	$ 8,387
Automotive	5,970	5,371
Industrial	1,460	1,314
Other	2,504	—
Total depreciation and amortization	$ 23,612	$ 15,072
Operating income (loss)		
Electronics	$ 53,964	$ 35,206
Automotive	18,390	15,065
Industrial	4,709	106
Other[(a)]	(39,492)	(1,525)
Total operating income	37,571	48,852
Interest expense	5,423	3,120
Foreign exchange loss (gain)	(10,555)	(1,557)
Other income, net	(1,943)	(139)
Income before income taxes	$ 44,646	$ 47,428

(a) For the first quarter of 2018, “Other” Operating income (loss) of $39.5 million consists of $38.6 million in acquisition and integration costs associated with the Company’s 2018 acquisition of IXYS ($18.4 million included in Cost of sales (“COS”), of which $17.9 million relates to fair value inventory adjustments, $16.1 million included in Selling, general, and administrative expenses (“SG&A), $1.6 million in Research and development (“R&D”) $2.5 million in backlog amortization expense), $0.8 million in restructuring costs ($0.5 million included in COS and $0.3 million in SG&A) and $0.1 million in year acquisition and integration costs associated with the Company’s 2017 acquisitions in SG&A.

For the first quarter of 2017, “Other” Operating income (loss) of $1.5 million consists of acquisition and integration costs associated with the Company’s 2016 acquisitions (included in COS and SG&A).

The Company’s net sales by country were as follows:

(in thousands)	For the Three Months Ended March 31, 2018	For the Three Months Ended April 1, 2017
Net sales		
United States	$ 123,877	$ 86,658
China[(a)]	106,508	78,219
Other countries[(b)]	187,428	120,564
Total net sales	$ 417,813	$ 285,441

(a) Includes mainland China, Taiwan, and Hong Kong.
(b) Each country included in Other countries are less than 10% of net sales.

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The Company's long-lived assets by country, as of March 31, 2018 and April 1, 2017, were as follows:

(in thousands)	March 31, 2018	December 30, 2017
Long-lived assets		
United States	$ 49,132	$ 23,490
China[(a)]	91,676	86,866
Mexico	64,176	62,510
Germany	36,232	1,082
Philippines	30,734	31,129
Other countries	65,255	45,500
Total long-lived assets	$ 337,205	$ 250,577

(a) Includes mainland China, Taiwan, and Hong Kong.

The Company's additions to long-lived assets by country were as follows:

	For the Three Months Ended	
(in thousands)	March 31, 2018	April 1, 2017
Additions to long-lived assets		
United States	$ 2,909	$ 332
China[(a)]	5,144	2,392
Mexico	3,310	6,978
Germany	3,038	45
Philippines	2,162	855
Other countries	1,346	1,775
Total additions to long-lived assets	$ 17,909	$ 12,377

(a) Includes mainland China, Taiwan, and Hong Kong.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Cautionary Statement Regarding Forward-Looking Statements Under the Private Securities Litigation Reform Act of 1995 ("PSLRA").

Certain statements in this section and other parts of this Quarterly Report on Form 10-Q may constitute "forward-looking statements" within the meaning of the federal securities laws and are entitled to the safe-harbor provisions of the PSLRA. These statements include statements regarding the Company's future performance, as well as management's expectations, beliefs, intentions, plans, estimates or projections relating to the future. Such statements can be identified by the use of forward-looking terminology such as "believes," "expects," "may," "estimates," "will," "should," "plans" or "anticipates" or the negative thereof or other variations thereon or comparable terminology, or by discussions of strategy, although not all forward-looking statements contain such terms. The Company cautions that forward-looking statements, which speak only as of the date they are made, are subject to risks, uncertainties and other factors, and actual results and outcomes may differ materially from those indicated or implied by the forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, risks relating to product demand and market acceptance; economic conditions; the impact of competitive products and pricing; product quality problems or product recalls; capacity and supply difficulties or constraints; coal mining exposures reserves; failure of an indemnification for environmental liability; exchange rate fluctuations; commodity price fluctuations; the effect of the Company's accounting policies; labor disputes; restructuring costs in excess of expectations; pension plan asset returns less than assumed; uncertainties related to political or regulatory changes; the risk that expected benefits, synergies and growth prospects of the Company's completed acquisition of IXYS Corporation ("IXYS") may not be achieved in a timely manner, or at all; the risk that IXYS' business may not be successfully integrated with the Company's; the risk that the Company and IXYS will be unable to retain and hire key personnel; and the risk that disruption from the acquisition may adversely affect the Company's or IXYS' business and their respective relationships with customers, suppliers or employees; and other risks which may be detailed in the Company's other Securities and Exchange Commission filings, including those set forth under Item 1A. "Risk Factors" of the Company's Annual Report on Form 10-K for the year ended December 30, 2017. The Company does not undertake any obligation to update or revise any forward-looking statements to reflect future events or circumstances, new information or otherwise.

This report, including the Management's Discussion and Analysis of Financial Condition and Results of Operations, should be read in conjunction with information provided in the consolidated financial statements and the related Notes thereto appearing in the Company's Annual Report on Form 10-K for the year ended December 30, 2017.

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is designed to provide information that is supplemental to, and should be read together with, the consolidated financial statements and the accompanying notes. Information in MD&A is intended to assist the reader in obtaining an understanding of (i) the consolidated financial statements, (ii) the changes in certain key items within those financial statements from year-to-year, (iii) the primary factors that contributed to those changes, and (iv) any changes in known trends or uncertainties that we are aware of and that may have a material effect on future performance. In addition, MD&A provides information about the Company's segments and how the results of those segments impact the results of operations and financial condition as a whole.

Executive Overview

Founded in 1927, Littelfuse is a global leader in circuit protection products with advancing platforms in power control and sensor technologies, serving customers in the electronics, automotive, and industrial markets. With a diverse and extensive product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, the Company works with its customers to build safer, more reliable and more efficient products for the connected world in virtually every market that uses electrical energy, ranging across consumer electronics, IT and telecommunication applications, industrial electronics, automobiles and other transportation, and heavy industrial applications

The company maintains a network of global laboratories and engineering centers that develop new products and product enhancements, provide customer application support and test products for safety, reliability, and regulatory compliance. The Company conducts its business through three reportable segments: Electronics, Automotive, and Industrial. For each of these segments, the Company designs, manufactures and sells circuit protection products that protect against electrostatic discharge, power surges, short circuits, voltage spikes and other harmful occurrences; power control products that safely and efficiently control power to mitigate equipment damage, minimize electrical hazards and improve productivity; and sensor products used to identify and detect temperature, proximity, flow speed and fluid level in various applications. The Company's customer base includes OEMs, Tier One automotive suppliers, and distributors.

Executive Summary

For the first quarter of 2018, the Company recognized net sales of $417.8 million compared to $285.4 million in the first quarter of 2017 representing an increase of $132.4 million, or 46.4%. The increase was primarily driven by the acquisition of IXYS along with higher volume across all three segments. Net sales for Electronics increased $110.6 million, or 72.0%, due to the acquisition of IXYS and U.S. Sensor and strong growth across all the business units and geographic regions. Net sales for the Automotive segment increased $18.3 million, or 17.0% due to volume growth across all the segment's business units and geographic regions. Net sales in the Industrial segment increased $3.4 million or 14.4% due to volume growth in the power fuse and relay businesses. The Company recognized net income of $36.0 million, or $1.45 per diluted share, in the first quarter of 2018 compared to net income of $38.9 million, or $1.69 per diluted share in the first quarter of 2017. The decrease in net income reflects the impact of the acquisition and integration related costs of $39.5 million associated with the IXYS acquisition that were mostly offset by operating income increases across all three segments and foreign exchange gains. Additionally, the per share results reflect an increase in the weighted average diluted shares outstanding of 1.5 million as a result of the shares issued in conjunction with the acquisition of IXYS.

Net cash provided by operating activities was $69.3 million for the three months ended March 31, 2018 as compared to $22.9 million for the three months ended April 1, 2017. The increase in net cash provided by operating activities reflected higher earnings and favorable working capital management that more than offset higher payments related to acquisition and integration costs.

On January 17, 2018, the Company completed its acquisition of IXYS for total purchase consideration of $778.8 million, net of cash acquired. IXYS is a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power control semiconductors across the industrial, communications, consumer and medical markets. IXYS has a broad customer base, serving more than 3,500 customers through its direct salesforce and global distribution partners.

Results of Operations

The following table summarizes the Company's consolidated results of operations for the periods presented. The first quarter of 2018 includes $39.5 million of non-segment charges. The charges related to the IXYS acquisition total $38.6 million and include $17.9 million of purchase accounting inventory charges, $11.7 million in acquisition-related and integration costs primarily related to legal, accounting and other expenses associated with the acquisition of IXYS, $4.5 million of stock compensation expense recognized immediately upon close for converted IXYS options related to prior services periods $2.5 million in backlog amortization costs and $2.1 million in other charges. In addition, there were $0.8 million of restructuring charges related to certain operations in the Electronics segment.

The first quarter of 2017 includes approximately $1.5 million of non-segment charges. These were primarily attributable to acquisition-related costs primarily related to legal and integration costs associated with the Company's acquisitions in 2016 of the ON Portfolio and PolySwitch.

	First Quarter			
(in thousands)	**2018**	**2017**	**Change**	**% Change**
Sales	$ 417,813	$ 285,441	$ 132,372	46.4%
Gross profit	149,623	113,650	35,973	31.7%
Operating expenses	112,052	64,798	47,254	72.9%
Operating income	37,571	48,852	(11,281)	(23.1%)
Other (income) expense, net	(1,943)	(139)	1,804	N.M.
Income before income taxes	44,646	47,428	(2,782)	(5.9%)
Net income	36,029	38,891	(2,862)	(7.4)

N.M. - Not meaningful

Net Sales

Net sales increased $132.4 million, or 46.4%, for the first quarter of 2018 compared to the first quarter of 2017 with increases of $86.3 million and $3.1 million resulting from incremental net sales related to the IXYS and U.S Sensor acquisitions, respectively. The remaining increase in net sales was driven by higher volume across all businesses in the Electronics segment and Automotive segments as well as increases in the fuse and relay businesses in the Industrial segment.

Gross Profit

Gross profit was $149.6 million, or 35.8% of net sales, in the first quarter of 2018, compared to $113.7 million, or 39.8% of net sales in the first quarter of 2017. The increase in gross profit reflects the lower gross profit of the IXYS acquisition and volume growth and expense leverage across all segments. The decrease in gross margin is due to the purchase accounting inventory charges of $17.9 million which negatively impacted the first quarter of 2018 gross margin by 4.3 percentage points.

Operating Expenses

Total operating expenses were $112.1 million, or 26.8% of net sales, for the first quarter of 2018 compared to $64.8 million, or 22.7% of net sales, for the first quarter of 2017. The increase in operating expenses of $47.3 million is primarily due to incremental operating expenses related to the IXYS and US Sensor acquisitions as well as higher acquisition-related and integration costs of $20.1 million and an increase in amortization expense of $6.1 million resulting from the acquisition of IXYS.

Operating Income

Operating income was $37.6 million, a decrease of $11.3 million or 23.1% for the first quarter of 2018 compared to $48.9 million for the first quarter of 2017. The decrease in operating income is primarily due to the purchase accounting inventory charges of $17.9 million along with the costs associated with the acquisition and integration of the IXYS acquisition as described above. Operating margins decreased from 17.1% in the first quarter of 2017 to 9.0% in the first quarter of 2018. The higher acquisition and integration charges negatively impacted operating margins by 9.0% in the first quarter of 2018.

Income Before Income Taxes

Income before income taxes was $44.6 million, or 10.7% of net sales, for the first quarter of 2018 compared to $47.4 million, or 16.6% of net sales, for the first quarter of 2017. In addition to the factors impacting comparative results for operating income, income before income taxes was impacted by favorable comparative foreign exchange gains that were partially offset by increased interest expense associated with the increased borrowings for the IXYS acquisition. The effect of foreign exchange rate changes on various foreign currency transactions worldwide was approximately $10.6 million of unrealized income for the first quarter of 2018 compared to income of unrealized $1.6 million for the first quarter of 2017 primarily due to fluctuations in the euro and Philippine peso against the U.S. dollar. Interest expense increased $2.3 million in the first quarter of 2018 primarily reflecting increased borrowings. Additionally, other income increased by $1.9 million as a result of unrealized investment gains, primarily associated with our investment in Polytronics.

Income Taxes

Income tax expense was $8.6 million, or an effective tax rate of 19.3%, for the first quarter of 2018 compared to $8.5 million, or an effective tax rate of 18.0%, for the first quarter of 2017. The effective tax rate for the first quarter of 2017 was lower than the then applicable 35% U.S. statutory tax rate primarily due to income earned in lower tax jurisdictions.

Segment Results of Operations

The Company reports its operations by the following segments: Electronics, Automotive and Industrial. Segment information is described more fully in Note 12, *Segment Information*, of the Notes to the Condensed Consolidated Financial Statements included in this Quarterly Report.

The following table provides a summary of the Company’s net sales by segment:

	First Quarter			
(in thousands)	**2018**	**2017**	**Change**	**% Change**
Electronics	$ 264,411	$ 153,767	$ 110,644	72.0%
Automotive	126,131	107,839	18,292	17.0%
Industrial	27,271	23,835	3,436	14.4%
Electronics	$ 417,813	$ 285,441	$ 132,372	46.4%

Electronics Segment

The Electronics segment net sales increased $110.6 million, or 72.0%, in the first quarter of 2018 compared to the first quarter of 2017 due to incremental net sales related to the IXYS and U.S. Sensor acquisitions of $86.3 million and $3.1 million, respectively, higher volume across all businesses driven by the strong electronics cycle and favorable foreign exchange impacts of $5.3 million.

Automotive Segment

The Automotive segment net sales increased $18.3 million, or 17.0%, in the first quarter of 2018 compared to the first quarter of 2017 due to increased volume across all businesses with the commercial vehicle business having the most growth as well as favorable changes in foreign exchange rates of $7.4 million.

Industrial Segment

The Industrial segment net sales increased $3.4 million, or 14.4%, in the first quarter of 2018 compared to the first quarter of 2017 primarily due to higher volume in the power fuse and relay operations partially offset by lower volume in the custom products business.

Geographic Net Sales Information

Net sales by geography represent net sales to customer or distributor locations. The following table is a summary of the Company's net sales by geography:

(in thousands)	First Quarter 2018	First Quarter 2017	Change	% Change
Americas	$ 138,729	$ 98,025	$ 40,704	41.5%
Europe	99,812	58,905	40,907	69.4%
Asia-Pacific	179,272	128,511	50,761	39.5%
Total	$ 417,813	$ 285,441	$ 132,372	46.4%

Americas

Net sales in the Americas increased $40.7 million, or 41.5%, in the first quarter of 2018 compared to the first quarter of 2017 driven by incremental sales from IXYS and U.S. Sensor acquisitions and increased volume across all businesses in the Electronics, Automotive and Industrial segments.

Europe

European net sales increased $40.9 million, or 69.4%, in the first quarter of 2018 compared to the first quarter of 2017. The increase in net sales was primarily due to incremental sales from the IXYS acquisition and higher volumes across all businesses in the Electronics and Automotive segments and the relay business in the Industrial segment as well as favorable foreign currency effects of $9.5 million.

Asia-Pacific

Asia-Pacific net sales increased $50.8 million, or 39.5%, in the first quarter of 2018 compared to the first quarter of 2017 primarily due to incremental net sales from current year and prior year acquisitions and higher net sales in all of the Electronics and Automotive segments' businesses as well as favorable foreign currency effects of $3.1 million.

Liquidity and Capital Resources

The Company has historically supported its liquidity needs through cash flows from operations. Management expects that the Company's (i) current level of cash, cash equivalents, and marketable securities, (ii) current and forecasted cash flows from operations, (iii) availability under existing funding arrangements, and (iv) access to capital in the capital markets will provide sufficient funds to support the Company's operations, capital expenditures, investments, and debt obligations on both a short-term and long-term basis.

Revolving Credit Facility/Term Loan

On March 4, 2016, the Company entered into a new five-year credit agreement with a group of lenders for up to $700.0 million. The new credit agreement consists of an unsecured revolving credit facility of $575.0 million and an unsecured term loan credit facility of up to $125.0 million. In addition, the Company has the ability, from time to time, to increase the size of the revolving credit facility and the term loan facility by up to an additional $150.0 million, in the aggregate, in each case in minimum increments of $25.0 million, subject to certain conditions and the agreement of participating lenders. For the term loan credit facility, the Company is required to make quarterly principal payments of $1.6 million through March 31, 2018 and $3.1 million from June 30, 2018 through December 31, 2020 with the remaining balance due on March 4, 2021.

On October 13, 2017, the Company amended the Credit Agreement to increase the Revolving Credit Facility from $575.0 million to $700.0 million and increase the Term Loan from $125.0 million to $200.0 million and to extend the expiration date from March 4, 2021 to October 13, 2022. The Credit Agreement also includes the option for the Company to increase the size of the Revolving Credit Facility and the Term Loan by up to an additional $300.0 million, in the aggregate, subject to the satisfaction of certain conditions set forth in the Credit Agreement. Term Loans may be made in up to two advances. The first advance of $125.0 million occurred on October 13, 2017 and the second advance of $75.0 million occurred on January 16, 2018. For the Term Loan, the Company is required to make quarterly principal payments of 1.25% of the original term loan ($2.5 million with the second advance on January 16, 2018) through maturity, with the remaining balance due on October 13, 2022.

Outstanding borrowings under the Credit Agreement bear interest, at the Company's option, at either LIBOR, fixed for interest periods of one, two, three or six-month periods, plus 1.00% to 2.00%, or at the bank's Base Rate, as defined, plus 0.00% to 1.00%, based upon the Company's Consolidated Leverage Ratio, as defined. The Company is also required to pay commitment fees on unused portions of the credit agreement ranging from 0.15% to 0.25%, based on the Consolidated Leverage Ratio, as defined. The credit agreement includes representations, covenants and events of default that are customary for financing transactions of this nature. The effective interest rate on outstanding borrowings under the credit facility was 3.13% at March 31, 2018. As of March 31, 2018, the Company had $0.1 million outstanding in letters of credit and had available $696.9 million of borrowing capacity under the Revolving Credit Facility. At March 31, 2018, the Company was in compliance with all covenants under the Credit Agreement. Further information regarding the Company's credit agreement is provided in Note 5, *Debt*, of the Notes to the Condensed Consolidated Financial Statements included in this Quarterly Report.

Senior Notes

On December 8, 2016, the Company entered into a Note Purchase Agreement, pursuant to which the Company issued and sold €212 million aggregate principal amount of senior notes in two series. The funding date for the Euro denominated senior notes occurred on December 8, 2016 for €117 million in aggregate amount of 1.14% Senior Notes, Series A, due December 8, 2023, and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 (together, the "Euro Senior Notes"). Interest on the Euro Senior Notes is payable semiannually on June 8 and December 8, commencing June 8, 2017.

On December 8, 2016, the Company entered into a Note Purchase Agreement, pursuant to which the Company issued and sold $125 million aggregate principal amount of senior notes in two series. On February 15, 2017, $25 million in aggregate principal amount of 3.03% Senior Notes, Series A, due February 15, 2022, and $100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 (together, the "U.S. Senior Notes," and together with the Euro Senior Notes, the "Senior Notes") were funded. Interest on the U.S. Senior Notes will be payable semiannually on February 15 and August 15, commencing August 15, 2017. Further information regarding the Company's Senior Notes is provided in Note 5, *Debt*, of the Notes to the Condensed Consolidated Financial Statements included in this Quarterly Report.

On November 15, 2017, the Company entered into a Note Purchase Agreement pursuant to which the Company issued and sold $175 million in aggregate principal amount of senior notes in two series. On January 16, 2018, $50 million aggregate principal amount of 3.48% Senior Notes, Series A, due February 15, 2025 ("U.S. Senior Notes, Series A due 2025") and $125 million in aggregate principal amount of 3.78% Senior Notes, Series B, due February 15, 2030 ("U.S. Senior Notes, Series B due 2030") (together the "U.S. Senior Notes due 2025 and 2030" and with the Euro Senior Notes and the U.S. Senior Notes 2022 and 2027, the "Senior Notes") were funded. Interest on the U.S. Senior Notes due 2025 and 2030 will be payable on February 15 and August 15, commencing on August 15, 2018.

Cash Flow Overview

	First Quarter	
(in thousands)	**2017**	**2016**
Net cash provided by operating activities	$ 69,268	$ 22,943
Net cash used in investing activities	(324,377)	(22,098)
Net cash provided by financing activities	240,308	2,938
Effect of exchange rate changes on cash and cash equivalents	(2,417)	(928)
Increase (decrease) in cash and cash equivalents	(17,218)	2,855
Cash and cash equivalents at beginning of period	429,676	275,124
Cash and cash equivalents at end of period	$ 412,458	$ 277,979

The following describes the Company's cash flows for the three months ended March 31, 2018 and April 1, 2017.

Cash Flow from Operating Activities

Operating cash inflows are largely attributable to sales of the Company's products. Operating cash outflows are largely attributable to recurring expenditures for raw materials, labor, rent, interest, taxes and other operating activities.

Net cash provided by operating activities was $69.3 million for the first three months of 2018, compared to $22.9 million during the three months ended April 1, 2017. The increase in net cash provided by operating activities was primarily driven by higher earnings and favorable working capital management that more than offset higher payments related to acquisition and integration costs.

Cash Flow from Investing Activities

Net cash used in investing activities was $324.4 million for the three months ended March 31, 2018, compared to $22.1 million during the three months ended April 1, 2017. Net cash used for the acquisition of IXYS was $306.5 million for the three months ended March 31, 2018 as compared to net cash used for the acquisition of a majority stake in Monolith of $14.2 million for the three months ended April 1, 2017. Capital expenditures were $17.9 million, representing an increase of $5.5 million compared to 2017.

Cash Flow from Financing Activities

Net cash provided by financing activities was $240.3 million for the three months ended 2018 compared to $2.9 million for the three months ended 2017. The Company had $300.0 million of proceeds from the credit facility, term loan and senior notes payable and $49.5 million of payments on the term loan and credit facility in the first quarter of 2018 as compared to $125.0 million of proceeds from the senior notes payable and $114.1 million of payments on the term loan and credit facility in the first quarter of 2017. Additionally, dividends paid increased $1.7 million from $7.5 million in 2017 to $9.2 million for the three months ended March 31, 2018.

Share Repurchase Program

The Company's Board of Directors authorized the repurchase of up to 1,000,000 shares of the Company's common stock under a program for the period May 1, 2017 to April 30, 2018 ("Share Repurchase Program"). The Company did not repurchase any shares of its common stock during fiscal 2017 or the first quarter of 2018. The Share Repurchase Program expired on April 30, 2018 with no shares repurchased. In April 2018, the Company's Board of Directors authorized a new program to repurchase up to 1,000,000 shares of the Company's common stock for the period May 1, 2018 to April 30, 2019.

Off-Balance Sheet Arrangements

As of March 31, 2018, the Company did not have any off-balance sheet arrangements, as defined under SEC rules. Specifically, the Company was not liable for guarantees of indebtedness owed by third parties, the Company was not directly liable for the debt of any unconsolidated entity and the Company did not have any retained or contingent interest in assets. The Company does not participate in transactions that generate relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

Critical Accounting Policies and Estimates

The Company's Condensed Consolidated Financial Statements are prepared in accordance with U.S. GAAP. In connection with the preparation of the Condensed Consolidated Financial Statements, the Company uses estimates and makes judgments and assumptions about future events that affect the reported amounts of assets, liabilities, revenue, expenses, and the related disclosures. The assumptions, estimates, and judgments are based on historical experience, current trends, and other factors the Company believes are relevant at the time it prepares the Condensed Consolidated Financial Statements.

The significant accounting policies and critical accounting estimates are consistent with those discussed in Note 1, Summary of Significant Accounting Policies and Other Information, to the consolidated financial statements and the MD&A section of the Company's Annual Report on Form 10-K for the year ended December 30, 2017. During the three months ended March 31, 2018, there were no significant changes in the application of critical accounting policies.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases" (Topic 842). This ASU requires lessees to recognize, on the balance sheet, assets and liabilities for the rights and obligations created by leases of greater than twelve months. The accounting by lessors will remain largely unchanged. The ASU is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. Adoption will require a modified retrospective transition. The Company will adopt the standard in the first quarter of 2019. The Company is currently evaluating the impact of ASU 2016-02.

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions in the Tax Act. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period cost are both acceptable methods subject to an accounting policy election. The Company has not yet completed its assessment and therefore has not yet elected an accounting policy.

In February 2018, the FASB issued ASU No. 2018-02 "Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," which permits the reclassification of tax effects stranded in accumulated other comprehensive income to retained earnings as a result of the Tax Act. The standard also requires entities to disclose whether or not they elected to reclassify the tax effects related to the Tax Act as well as their policy for releasing income tax effects from accumulated other comprehensive income. The standard allows the option of applying either a retrospective adoption, meaning the standard is applied to all periods in which the effect of the Tax Act is recognized, or applying the amendments in the period of adoption, meaning an adjustment is made to shareholder's equity as of the beginning of the reporting period. ASU 2018-02 will be effective in the first quarter of 2019; however early adoption is permitted for interim and annual periods, including the reporting period in which the Tax Act was enacted. The Company is currently evaluating the impact of ASU 2018-02 on the Consolidated Financial Statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

See Item 7A, Quantitative and Qualitative Disclosures about Market Risk, of our Annual Report on Form 10-K for the year ended December 30, 2017. During the three months ended March 31, 2018, there have been no material changes in our exposure to market risk.

ITEM 4. CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures (as defined in Rules 13a-15(b) and 15d-15(e) under the Exchange Act) are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures.

In connection with the preparation of this report, management, under the supervision and with the participation of the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of March 31, 2018. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of the quarter ended March 31, 2018, our disclosure controls and procedures were effective.

(b) Changes in Internal Control over Financial Reporting

The Company acquired IXYS Corporation on January 17, 2018. IXYS Corporation operated with a different internal control environment than that of Littelfuse, Inc. The Company's evaluation of IXYS' internal controls over financial reporting and integration of IXYS into the Company's internal control structure is ongoing. Otherwise, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(f) and 15d-15(f) under the Exchange Act that occurred during the quarter ended March 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

During the three months ended March 31, 2018, there have been no material changes from the risk factors disclosed in our Annual Report on Form 10-K for our year ended December 30, 2017.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMAITON

None.

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ITEM 6. EXHIBITS

Exhibit	Description
10.1*	Joinder Agreement, dated as of March 14, 2018, by and between Clare Capital, Inc., Clare Components, Inc., Clare Electronics, Inc., Clare Instruments, Inc., Clare Services, Inc., Clare Technologies, Inc., Directed Energy, Inc., IXYS Buckeye, LLC, IXYS Integrated Circuits Division AV Inc., IXYS Integrated Circuits Divisions Inc., IXYS Long Beach, Inc., IXYS USA, Inc., Microwave Technology, Inc., Pele Technology, Inc., Reaction Technology Incorporation, Zilog, Inc., and Bank of America, N.A., as agent.
10.2*	U.S. Subsidiary Guarantor Supplement, dated as of March 14, 2018, made by Clare Capital, Inc., Clare Components, Inc., Clare Electronics, Inc., Clare Instruments, Inc., Clare Services, Inc., Clare Technologies, Inc., Directed Energy, Inc., IXYS Buckeye, LLC, IXYS Integrated Circuits Division AV Inc., IXYS Integrated Circuits Divisions Inc., IXYS Long Beach, Inc., IXYS USA, Inc., Microwave Technology, Inc., Pele Technology, Inc., Reaction Technology Incorporation and Zilog, Inc. in favor of the note purchasers and the other holders.
10.3*	Cross Border Subsidiary Guarantor Supplement, dated as of March 14, 2018, made by Clare Capital, Inc., Clare Components, Inc., Clare Electronics, Inc., Clare Instruments, Inc., Clare Services, Inc., Clare Technologies, Inc., Directed Energy, Inc., IXYS Buckeye, LLC, IXYS Integrated Circuits Division AV Inc., IXYS Integrated Circuits Divisions Inc., IXYS Long Beach, Inc., IXYS USA, Inc., Microwave Technology, Inc., Pele Technology, Inc., Reaction Technology Incorporation and Zilog, Inc. in favor of the note purchasers and the other holders.
10.4*	Note Purchase Agreement Subsidiary Guarantor Supplement, dated as of March 14, 2018, made by Clare Capital, Inc., Clare Components, Inc., Clare Electronics, Inc., Clare Instruments, Inc., Clare Services, Inc., Clare Technologies, Inc., Directed Energy, Inc., IXYS Buckeye, LLC, IXYS Integrated Circuits Division AV Inc., IXYS Integrated Circuits Divisions Inc., IXYS Long Beach, Inc., IXYS USA, Inc., Microwave Technology, Inc., Pele Technology, Inc., Reaction Technology Incorporation and Zilog, Inc. in favor of the note purchasers and the other holders.
31.1*	Certification of David W. Heinzmann, Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Meenal A. Sethna, Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

+	Certain schedules and exhibits omitted pursuant to Item 601(b)(2) of Regulation S-K promulgated by the SEC. The registrant agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request.
*	Filed herewith.
**	Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, to be signed on its behalf by the undersigned thereunto duly authorized.

Littelfuse, Inc.

By: /s/ Meenal A. Sethna
Meenal A. Sethna
Executive Vice President and Chief Financial Officer

Date: May 2, 2018

By: /s/ Jeffrey G. Gorski
Jeffrey G. Gorski
Vice President and Chief Accounting Officer

Exhibit 10.1

JOINDER AGREEMENT

THIS JOINDER AGREEMENT (the "Agreement"), dated as of March 14, 2018, is by and between (i) each of CLARE CAPITAL, INC., a Delaware corporation, CLARE COMPONENTS, INC., a Delaware corporation, Clare Electronics, Inc., a Delaware corporation, CLARE INSTRUMENTS, INC., a Delaware corporation, CLARE SERVICES, INC., a Delaware corporation, CLARE TECHNOLOGIES, INC., a Delaware corporation, DIRECTED ENERGY, INC., a Colorado corporation, IXYS BUCKEYE, LLC, a Delaware limited liability company, IXYS INTEGRATED CIRCUITS DIVISION AV INC., a California corporation, IXYS INTEGRATED CIRCUITS DIVISION INC., a Massachusetts corporation, IXYS LONG BEACH, INC., a California corporation, IXYS USA, INC., a Delaware corporation, MICROWAVE TECHNOLOGY, INC., a California corporation, PELE TECHNOLOGY, INC., a Delaware corporation, REACTION TECHNOLOGY INCORPORATED, a California corporation, and ZILOG, INC., a Delaware corporation (each, a "Subsidiary"), and (ii) BANK OF AMERICA, N.A., in its capacity as Agent under that certain Credit Agreement (as it may be amended, modified, restated or supplemented from time to time, the "Credit Agreement"), dated as of March 4, 2016, by and among Littelfuse, Inc., a Delaware corporation, the Designated Borrowers, the Guarantors, the Lenders, and Bank of America, N.A., as Agent. All of the defined terms in the Credit Agreement are incorporated herein by reference.

The Loan Parties are required by Section 6.12 of the Credit Agreement to cause each Subsidiary to become a "Guarantor".

Accordingly, each Subsidiary hereby agrees as follows with the Agent, for the benefit of the Lenders:

1. The Subsidiary hereby acknowledges, agrees and confirms that, by its execution of this Agreement, the Subsidiary will be deemed to be a party to the Credit Agreement and a "Guarantor" for all purposes of the Credit Agreement, and shall have all of the obligations of a Guarantor thereunder as if it had executed the Credit Agreement. The Subsidiary hereby ratifies, as of the date hereof, and agrees to be bound by, all of the terms, provisions and conditions applicable to the Guarantors contained in the Credit Agreement. Without limiting the generality of the foregoing terms of this paragraph 1, the Subsidiary hereby jointly and severally together with the other Guarantors, guarantees to each Lender and the Agent, as provided in Article XI of the Credit Agreement, the prompt payment of the Obligations in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, a mandatory cash collateralization or otherwise) strictly in accordance with the terms thereof.

2. The address of the Subsidiary for purposes of all notices and other communications is c/o Littelfuse, Inc., 8755 W. Higgins Road, Chicago, Illinois 60631, Attention: Assistant Treasurer (Facsimile No. 847-512-0340).

3. The Subsidiary hereby waives acceptance by the Agent and the Lenders of the guaranty by the Subsidiary under Article XI of the Credit Agreement upon the execution of this Agreement by the Subsidiary.

4. This Agreement may be executed in two or more counterparts, each of which shall constitute an original but all of which when taken together shall constitute one contract.

5. This Agreement shall be governed by and construed and interpreted in accordance with the laws of the State of New York.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, each Subsidiary has caused this Agreement to be duly executed by its authorized officer, and the Agent, for the benefit of the Lenders, has caused the same to be accepted by its authorized officer, as of the day and year first above written.

CLARE CAPITAL, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE COMPONENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE ELECTRONICS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE INSTRUMENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

Clare SERVICES, Inc.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE TECHNOLOGIES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

DIRECTED ENERGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS BUCKEYE, LLC

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION AV INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS LONG BEACH, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS USA, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

MICROWAVE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

PELE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

REACTION TECHNOLOGY
INCORPORATED

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

ZILOG, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

Acknowledged and accepted:

BANK OF AMERICA, N.A.,
as Agent

By: /s/ Melissa Mullis
Name: Melissa Mullis
Title: AVP

Schedule 1
TO JOINDER AGREEMENT

Subsidiary	**Chief Executive Office**	**Tax Identification Number**	**Organization Identification Number**	**Chief Place of Business of Subsidiary**
Clare Capital, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502272	2361447	1590 Buckeye Drive, Milpitas, CA 95035
Clare Components, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502266	2361440	1590 Buckeye Drive, Milpitas, CA 95035
Clare Electronics, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502268	2361439	1590 Buckeye Drive, Milpitas, CA 95035
Clare Instruments, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502271	2361437	1590 Buckeye Drive, Milpitas, CA 95035
Clare Services, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502262	2361441	1590 Buckeye Drive, Milpitas, CA 95035
Clare Technologies, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3502265	2361444	1590 Buckeye Drive, Milpitas, CA 95035
Directed Energy, Inc. (CO)	8755 W. Higgins Road, Chicago, Illinois 60631	84-1074373	19871762368	1609 Oakridge Drive, Suite 100, Fort Collins, CO 80525
IXYS Buckeye, LLC (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	56-2674941	4302617	1590 Buckeye Drive, Milpitas, CA 95035
IXYS Integrated Circuits Division AV Inc. (CA)	8755 W. Higgins Road, Chicago, Illinois 60631	33-0074994	C1316390	145 Columbia, Aliso Viejo, CA 92656-1490
IXYS Integrated Circuits Division Inc. (MA)	8755 W. Higgins Road, Chicago, Illinois 60631	04-2561471	042561471	78 Cherry Hill Drive, Bevely, MA 01915
IXYS Long Beach, Inc. (CA)	8755 W. Higgins Road, Chicago, Illinois 60631	33-0114560	C1341478	2500 Mira Mar Ave., Long Beach, CA 90815
IXYS USA, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	94-2885422	2562971	1590 Buckeye Drive, Milpitas, CA 95035
Microwave Technology, Inc. (CA)	8755 W. Higgins Road, Chicago, Illinois 60631	94-2824392	C1112596	4268 Solar Way, Fremont, CA 94538

Pele Technology, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	27-1318954	4586549	1590 Buckeye Drive, Milpitas, CA 95035
Reaction Technology Incorporated (CA)	8755 W. Higgins Road, Chicago, Illinois 60631	77-0277143	C1518034	3400 Bassett Street, Santa Clara, CA 95051
Zilog, Inc. (DE)	8755 W. Higgins Road, Chicago, Illinois 60631	13-3092996	2714793	1590 Buckeye Drive, Milpitas, CA 95035

Exhibit 10.2

Subsidiary Guarantor Supplement

This Subsidiary Guarantor Supplement (the *"Subsidiary Guarantor Supplement"*), dated as of March 14, 2018 is made by each of CLARE CAPITAL, INC., a Delaware corporation, CLARE COMPONENTS, INC., a Delaware corporation, CLARE ELECTRONICS, INC., a Delaware corporation, CLARE INSTRUMENTS, INC., a Delaware corporation, CLARE SERVICES, INC., a Delaware corporation, CLARE TECHNOLOGIES, INC., a Delaware corporation, DIRECTED ENERGY, INC., a Colorado corporation, IXYS BUCKEYE, LLC, a Delaware limited liability company, IXYS INTEGRATED CIRCUITS DIVISION AV INC., a California corporation, IXYS INTEGRATED CIRCUITS DIVISION INC., a Massachusetts corporation, IXYS LONG BEACH, INC., a California corporation, IXYS USA, INC., a Delaware corporation, MICROWAVE TECHNOLOGY, INC., a California corporation, PELE TECHNOLOGY, INC., a Delaware corporation, REACTION TECHNOLOGY INCORPORATED, a California corporation, and ZILOG, INC., a Delaware corporation (each, an *"Additional Subsidiary Guarantor"*), in favor of the holders from time to time of the Notes issued pursuant to the Note Agreement described below:

Preliminary Statements:

I. Pursuant to the Note Purchase Agreement dated as of December 8, 2016 (as amended, modified, supplemented or restated from time to time, the *"Note Agreement"*), by and among Littelfuse, Inc., a Delaware corporation (together with any successor thereto that becomes a party to the Note Agreement pursuant to Section 10.2, the *"Company"*) and the Persons listed on the signature pages thereto (the *"Purchasers"*), the Company has issued and sold (i) $25,000,000 aggregate principal amount of its 3.03% Senior Notes, Series A, due February 15, 2022 (the *"Series A Notes"*) and (ii) $100,000,000 aggregate principal amount of its 3.74% Senior Notes, Series B, due February 15, 2027 (the "*Series B Notes*" and together with the Series A Notes as amended, restated or otherwise modified from time to time and including any such notes issued in substitution therefor, the *"Notes"* and individually a *"Note"*).

II. The Company is required pursuant to the Note Agreement to cause each Additional Subsidiary Guarantor to deliver this Subsidiary Guarantor Supplement in order to cause each Additional Subsidiary Guarantor to become a Subsidiary Guarantor under the Subsidiary Guaranty Agreement dated as of February 15, 2017 executed by certain Subsidiaries of the Company (together with each entity that from time to time becomes a party thereto by executing a Subsidiary Guarantor Supplement pursuant to Section 14.1 thereof, collectively, the *"Subsidiary Guarantors"*) in favor of each holder from time to time of any of the Notes (as the same may be amended, restated, supplemented or otherwise modified from time to time, the *"Subsidiary Guaranty Agreement"*).

III. Each Additional Subsidiary Guarantor has received and will receive substantial direct and indirect benefits from the Company's compliance with the terms and conditions of the Note Agreement and the Notes issued thereunder.

IV. Capitalized terms used and not otherwise defined herein have the definitions set forth in the Note Agreement.

Now therefore, in consideration of the funds advanced to the Company by the Purchasers under the Note Agreement and to enable the Company to comply with the terms of the Note Agreement, each Additional Subsidiary Guarantor hereby covenants, represents and warrants to the holders as follows:

The Additional Subsidiary Guarantor hereby becomes a Subsidiary Guarantor (as defined in the Subsidiary Guaranty Agreement) for all purposes of the Subsidiary Guaranty Agreement. Without limiting the foregoing, the Additional Subsidiary Guarantor hereby (a) jointly and severally with the other Subsidiary Guarantors under the Subsidiary Guaranty Agreement (including the other Additional Subsidiary Guarantors party to this Subsidiary Guarantor Supplement), guarantees to the holders from time to time of the Notes the prompt payment in full when due (whether at stated maturity, by acceleration or otherwise) and the full and prompt performance and observance of all Guaranteed Obligations (as defined in Section 1 of the Subsidiary Guaranty Agreement) in the same manner and to the same extent as is provided in the Subsidiary Guaranty Agreement, (b) accepts and agrees to perform and observe all of the covenants set forth therein, (c) waives the rights set forth in Section 3 of the Subsidiary Guaranty Agreement, (d) agrees to perform and observe the covenants contained in Section 8 of the Subsidiary Guaranty Agreement, (e) makes the representations and warranties set forth in Section 9 of the Subsidiary Guaranty Agreement and (f) waives the rights, submits to jurisdiction, and waives service of process as described in Section 14.6 of the Subsidiary Guaranty Agreement.

Notice of acceptance of this Subsidiary Guarantor Supplement and of the Subsidiary Guaranty Agreement, as supplemented hereby, is hereby waived by the Additional Subsidiary Guarantor.

The address for notices and other communications to be delivered to the Additional Subsidiary Guarantor pursuant to Section 13 of the Subsidiary Guaranty Agreement is set forth on the signature page below.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

In Witness Whereof, each Additional Subsidiary Guarantor has caused this Subsidiary Guarantor Supplement to be duly executed and delivered as of the date and year first above written.

CLARE CAPITAL, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE COMPONENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE ELECTRONICS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE INSTRUMENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE SERVICES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE TECHNOLOGIES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

DIRECTED ENERGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS BUCKEYE, LLC

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION AV INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS LONG BEACH, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS USA, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

MICROWAVE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

PELE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

REACTION TECHNOLOGY INCORPORATED

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

ZILOG, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

Notice Address for each Additional Subsidiary Guarantor:

c/o Littelfuse, Inc.
Attention: Legal Department
8755 W. Higgins Road, Suite 500
Chicago, IL 60631

Exhibit 10.3

Subsidiary Guarantor Supplement

This Subsidiary Guarantor Supplement (the *"Subsidiary Guarantor Supplement"*), dated as of March 14, 2018 is made by each of CLARE CAPITAL, INC., a Delaware corporation, CLARE COMPONENTS, INC., a Delaware corporation, CLARE ELECTRONICS, INC., a Delaware corporation, CLARE INSTRUMENTS, INC., a Delaware corporation, CLARE SERVICES, INC., a Delaware corporation, CLARE TECHNOLOGIES, INC., a Delaware corporation, DIRECTED ENERGY, INC., a Colorado corporation, IXYS BUCKEYE, LLC, a Delaware limited liability company, IXYS INTEGRATED CIRCUITS DIVISION AV INC., a California corporation, IXYS INTEGRATED CIRCUITS DIVISION INC., a Massachusetts corporation, IXYS LONG BEACH, INC., a California corporation, IXYS USA, INC., a Delaware corporation, MICROWAVE TECHNOLOGY, INC., a California corporation, PELE TECHNOLOGY, INC., a Delaware corporation, REACTION TECHNOLOGY INCORPORATED, a California corporation, and ZILOG, INC., a Delaware corporation (each, an *"Additional Subsidiary Guarantor"*), in favor of the holders from time to time of the Notes issued pursuant to the Note Agreement described below:

Preliminary Statements:

I. Pursuant to the Note Purchase Agreement dated as of December 8, 2016 (as amended, modified, supplemented or restated from time to time, the *"Note Agreement"*), by and among Littelfuse Netherland C.V., a limited partnership (*commanditaire vennootschap*) established under the laws of the Netherlands (together with any successor thereto that becomes a party to the Note Agreement pursuant to Section 10.2, the *"Company")* and Littelfuse, Inc., a Delaware corporation (the *"Parent Guarantor"* and, together with the Company, the *"Obligors"*), and the Persons listed on the signature pages thereto (the *"Purchasers"*), the Obligors have issued and sold (i) €117,000,000 aggregate principal amount of its 1.14% Senior Notes, Series A, due December 8, 2023 (the *"Series A Notes"*) and (ii) €95,000,000 aggregate principal amount of its 1.83% Senior Notes, Series B, due December 8, 2028 (the *"Series B Notes"* and together with the Series A Notes as amended, restated or otherwise modified from time to time and including any such notes issued in substitution therefor, the *"Notes"* and individually a *"Note"*).

II. The Obligors are required pursuant to the Note Agreement to cause each Additional Subsidiary Guarantor to deliver this Subsidiary Guarantor Supplement in order to cause each Additional Subsidiary Guarantor to become a Subsidiary Guarantor under the Subsidiary Guaranty Agreement dated as of December 8, 2016 executed by certain Subsidiaries of the Obligors (together with each entity that from time to time becomes a party thereto by executing a Subsidiary Guarantor Supplement pursuant to Section 15.1 thereof, collectively, the *"Subsidiary Guarantors"*) in favor of each holder from time to time of any of the Notes (as the same may be amended, restated, supplemented or otherwise modified from time to time, the *"Subsidiary Guaranty Agreement"*).

III. Each Additional Subsidiary Guarantor has received and will receive substantial direct and indirect benefits from the Obligors' compliance with the terms and conditions of the Note Agreement and the Notes issued thereunder.

IV. Capitalized terms used and not otherwise defined herein have the definitions set forth in the Note Agreement.

Now therefore, in consideration of the funds advanced to the Company by the Purchasers under the Note Agreement and to enable the Obligors to comply with the terms of the Note Agreement, each Additional Subsidiary Guarantor hereby covenants, represents and warrants to the holders as follows:

The Additional Subsidiary Guarantor hereby becomes a Subsidiary Guarantor (as defined in the Subsidiary Guaranty Agreement) for all purposes of the Subsidiary Guaranty Agreement. Without limiting the foregoing, the Additional Subsidiary Guarantor hereby (a) jointly and severally with the other Subsidiary Guarantors under the Subsidiary Guaranty Agreement (including the other Additional Subsidiary Guarantors party to this Subsidiary Guarantor Supplement), guarantees to the holders from time to time of the Notes the prompt payment in full when due (whether at stated maturity, by acceleration or otherwise) and the full and prompt performance and observance of all Guaranteed Obligations (as defined in Section 1 of the Subsidiary Guaranty Agreement) in the same manner and to the same extent as is provided in the Subsidiary Guaranty Agreement, (b) accepts and agrees to perform and observe all of the covenants set forth therein, (c) waives the rights set forth in Section 3 of the Subsidiary Guaranty Agreement, (d) agrees to perform and observe the covenants contained in Section 8 of the Subsidiary Guaranty Agreement, (e) makes the representations and warranties set forth in Section 9 of the Subsidiary Guaranty Agreement and (f) waives the rights, submits to jurisdiction, and waives service of process as described in Section 15.6 of the Subsidiary Guaranty Agreement.

Notice of acceptance of this Subsidiary Guarantor Supplement and of the Subsidiary Guaranty Agreement, as supplemented hereby, is hereby waived by the Additional Subsidiary Guarantor.

The address for notices and other communications to be delivered to the Additional Subsidiary Guarantor pursuant to Section 14 of the Subsidiary Guaranty Agreement is set forth on the signature page below.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

In Witness Whereof, each Additional Subsidiary Guarantor has caused this Subsidiary Guarantor Supplement to be duly executed and delivered as of the date and year first above written.

CLARE CAPITAL, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE COMPONENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE ELECTRONICS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE INSTRUMENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE SERVICES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE TECHNOLOGIES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

DIRECTED ENERGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS BUCKEYE, LLC

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION AV INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS LONG BEACH, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS USA, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

MICROWAVE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

PELE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

REACTION TECHNOLOGY
INCORPORATED

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

ZILOG, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

Notice Address for each Additional Subsidiary
Guarantor:

c/o Littelfuse, Inc.
Attention: Legal Department
8755 W. Higgins Road, Suite 500
Chicago, IL 60631

SIGNATURE PAGE TO
SUBSIDIARY GUARANTOR SUPPLEMENT

Exhibit 10.4

Subsidiary Guarantor Supplement

This Subsidiary Guarantor Supplement (the *"Subsidiary Guarantor Supplement"*), dated as of March 14, 2018 is made by each of CLARE CAPITAL, INC., a Delaware corporation, CLARE COMPONENTS, INC., a Delaware corporation, CLARE ELECTRONICS, INC., a Delaware corporation, CLARE INSTRUMENTS, INC., a Delaware corporation, CLARE SERVICES, INC., a Delaware corporation, CLARE TECHNOLOGIES, INC., a Delaware corporation, DIRECTED ENERGY, INC., a Colorado corporation, IXYS BUCKEYE, LLC, a Delaware limited liability company, IXYS INTEGRATED CIRCUITS DIVISION AV INC., a California corporation, IXYS INTEGRATED CIRCUITS DIVISION INC., a Massachusetts corporation, IXYS LONG BEACH, INC., a California corporation, IXYS USA, INC., a Delaware corporation, MICROWAVE TECHNOLOGY, INC., a California corporation, PELE TECHNOLOGY, INC., a Delaware corporation, REACTION TECHNOLOGY INCORPORATED, a California corporation, and ZILOG, INC., a Delaware corporation (each, an *"Additional Subsidiary Guarantor"*), in favor of the holders from time to time of the Notes issued pursuant to the Note Agreement described below:

Preliminary Statements:

I. Pursuant to the Note Purchase Agreement dated as of November 15, 2017 (as amended, modified, supplemented or restated from time to time, the *"Note Agreement"*), by and among Littelfuse, Inc., a Delaware corporation (together with any successor thereto that becomes a party to the Note Agreement pursuant to Section 10.2, the *"Company"*) and the Persons listed on the signature pages thereto (the *"Purchasers"*), the Company has issued and sold (i) $50,000,000 aggregate principal amount of its 3.48% Senior Notes, Series A, due February 15, 2025 (the *"Series A Notes"*) and (ii) $125,000,000 aggregate principal amount of its 3.78% Senior Notes, Series B, due February 15, 2030 (the "*Series B Notes*" and together with the Series A Notes as amended, restated or otherwise modified from time to time and including any such notes issued in substitution therefor, the *"Notes"* and individually a *"Note"*).

II. The Company is required pursuant to the Note Agreement to cause each Additional Subsidiary Guarantor to deliver this Subsidiary Guarantor Supplement in order to cause each Additional Subsidiary Guarantor to become a Subsidiary Guarantor under the Subsidiary Guaranty Agreement dated as of January 16, 2018 executed by certain Subsidiaries of the Company (together with each entity that from time to time becomes a party thereto by executing a Subsidiary Guarantor Supplement pursuant to Section 14.1 thereof, collectively, the *"Subsidiary Guarantors"*) in favor of each holder from time to time of any of the Notes (as the same may be amended, restated, supplemented or otherwise modified from time to time, the *"Subsidiary Guaranty Agreement"*).

III. Each Additional Subsidiary Guarantor has received and will receive substantial direct and indirect benefits from the Company's compliance with the terms and conditions of the Note Agreement and the Notes issued thereunder.

IV. Capitalized terms used and not otherwise defined herein have the definitions set forth in the Note Agreement.

Now therefore, in consideration of the funds advanced to the Company by the Purchasers under the Note Agreement and to enable the Company to comply with the terms of the Note Agreement, each Additional Subsidiary Guarantor hereby covenants, represents and warrants to the holders as follows:

The Additional Subsidiary Guarantor hereby becomes a Subsidiary Guarantor (as defined in the Subsidiary Guaranty Agreement) for all purposes of the Subsidiary Guaranty Agreement. Without limiting the foregoing, the Additional Subsidiary Guarantor hereby (a) jointly and severally with the other Subsidiary Guarantors under the Subsidiary Guaranty Agreement (including the other Additional Subsidiary Guarantors party to this Subsidiary Guarantor Supplement), guarantees to the holders from time to time of the Notes the prompt payment in full when due (whether at stated maturity, by acceleration or otherwise) and the full and prompt performance and observance of all Guaranteed Obligations (as defined in Section 1 of the Subsidiary Guaranty Agreement) in the same manner and to the same extent as is provided in the Subsidiary Guaranty Agreement, (b) accepts and agrees to perform and observe all of the covenants set forth therein, (c) waives the rights set forth in Section 3 of the Subsidiary Guaranty Agreement, (d) agrees to perform and observe the covenants contained in Section 8 of the Subsidiary Guaranty Agreement, (e) makes the representations and warranties set forth in Section 9 of the Subsidiary Guaranty Agreement and (f) waives the rights, submits to jurisdiction, and waives service of process as described in Section 14.6 of the Subsidiary Guaranty Agreement.

Notice of acceptance of this Subsidiary Guarantor Supplement and of the Subsidiary Guaranty Agreement, as supplemented hereby, is hereby waived by the Additional Subsidiary Guarantor.

The address for notices and other communications to be delivered to the Additional Subsidiary Guarantor pursuant to Section 13 of the Subsidiary Guaranty Agreement is set forth on the signature page below.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

In Witness Whereof, each Additional Subsidiary Guarantor has caused this Subsidiary Guarantor Supplement to be duly executed and delivered as of the date and year first above written.

CLARE CAPITAL, INC.

By:/s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE COMPONENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE ELECTRONICS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE INSTRUMENTS, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE SERVICES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

CLARE TECHNOLOGIES, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

DIRECTED ENERGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS BUCKEYE, LLC

By: /s Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION AV INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS INTEGRATED CIRCUITS DIVISION INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS LONG BEACH, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

IXYS USA, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

MICROWAVE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

PELE TECHNOLOGY, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

REACTION TECHNOLOGY INCORPORATED

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

ZILOG, INC.

By: /s/ Ryan Stafford
Name: Ryan Stafford
Title: President and Secretary

Notice Address for each Additional Subsidiary Guarantor:

c/o Littelfuse, Inc.
Attention: Legal Department
8755 W. Higgins Road, Suite 500
Chicago, IL 60631

EXHIBIT 31.1

SECTION 302 CERTIFICATION

I, David W. Heinzmann, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Littelfuse Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: May 2, 2018

/s/ David W. Heinzmann
David W. Heinzmann
President and Chief Executive
Officer

EXHIBIT 31.2

SECTION 302 CERTIFICATION

I, Meenal A. Sethna, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Littelfuse Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: May 2, 2018

/s/ MEENAL A. SETHNA
Meenal A. Sethna
Executive Vice President and Chief Financial Officer

EXHIBIT 32.1

LITTELFUSE, INC.

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of title 18, United States Code), each of the undersigned officers of Littelfuse, Inc. ("the Company") does hereby certify that to his knowledge:

The Quarterly Report of the Company on Form 10-Q for the fiscal quarter ended March 31, 2018 ("the Report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/S/ DAVID W. HEINZMANN
David W. Heinzmann
President and Chief Executive
Officer

Dated: May 2, 2018

/S/ MEENAL A. SETHNA
Meenal A. Sethna
Executive Vice President and
Chief Financial Officer

Dated: May 2, 2018